

UNITED STATES MARINE CORPS

Concepts & Issues

96

First to Fight
in the 21st Century



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The Marine Corps – Preparing for the 21st Century

Today's Marine Corps is the premier crisis response force in the world. As the Nation's only fully capable expeditionary force-in-readiness, the Corps has maintained an intense pace of operations around the world, from Bosnia to Columbia, from Iraq to Southeast Asia, from Cuba to Korea. Seldom in its history has our Nation had a greater demand for the capabilities Marines provide, and I am very proud to

report that our 216,000 Total Force Marines are ready, highly capable, and prepared to project the power and influence of the U.S. from the sea to any foreign shore.



The waves of change and resulting instability sweeping key regions of the world place heavy demands on our Nation's military Services. The uncertain horizon created by ethnic and religious breakdown between and among nations and the shifting economic trends toward the Pacific-Indian Ocean rim create an even more pressing imperative for military forces – and especially Naval Forces – that can remain versatile, yet act decisively whenever called upon. These

forces must be able to quickly and surely anticipate change and adapt to a new reality. Navy and Marine Corps forces have always been that kind of force – and will continue to be so.

As defense budgets decline and our armed forces continue to reexamine their contribution, it is again time for vision. The Marine Corps will not retain its warfighting edge by simple product improvements of today's technology and thinking. We must take a fundamentally new look at how we will bring military power to bear in the emerging new era. Marines will need to link technology to new warfighting concepts to win quick, decisive victories with minimum casualties.

Building upon current capabilities and our established record for strategic and tactical innovation, the Corps has developed a vision for reshaping naval warfare in the next century. To seize this concept and turn it into reality, we have established an organization and a systematic process for thinking “outside the box.” The Commandant’s Warfighting Laboratory and the “Sea Dragon” process will be the cradle and test bed for the development of enhanced operational concepts, tactics, and doctrine, as well as innovative new training, education, and support systems which will be progressively introduced in concert with new technologies. This will enable the Corps to handle a variety of future missions and be trained and equipped to defeat any enemy. We will remain fundamentally naval and expeditionary in character, and will be first on the scene, first to fight, first to quell disturbances, and first to help. The Marine Corps will be the Nation’s force of choice. No matter what the crisis or threat, the Nation will have one thought: “Send in the Marines.”

Over the last several years, declining fiscal resources have forced very difficult choices between preserving current capabilities and investing in those needed for the next century. Though we have consistently responded to the increasing demands for ready forces and emphasized programs supporting current readiness, this has been at the expense of dollars needed for tomorrow and, more importantly, the day after tomorrow. Marine Corps investment funding has been significantly below the levels necessary to preserve current capability into the next century. This pattern must change if we are to provide the expeditionary force-in-readiness needed for meeting the Nation’s interests in the 21st century.

Today the Corps is poised and ready to lead the way into the 21st century. With adequate support and its continuing spirit of innovation and adaptability, it will do just that.

A handwritten signature in black ink, appearing to read "C.C. Krulak".

Charles C. Krulak
General, U.S. Marine Corps
Commandant of the Marine Corps





Chapter

1

The Marine Corps - America's Force-in- Readiness

As we move toward the 21st Century, the strategic role of the Marine Corps remains constant: to provide a strong expeditionary force-in-readiness that is versatile, adaptable, and powerful. To meet the projected security challenges facing the Nation, the Marine Corps will leverage its recognized skills of innovation to vigorously seek out new opportunities to enhance its usefulness, flexibility, and unparalleled expeditionary capability across the entire spectrum of contingencies.

As the number of overseas bases declines and the number of U.S. military personnel permanently stationed overseas dwindles, the versatility, sea-based agility, and rapid responsiveness of Navy and Marine Corps forces become imperative for the emerging strategic environment. The primary focus of the Corps in all its endeavors will be to provide a premier crisis response force -- ready, decisive, and unbeatable -- comprised of highly capable men and women, possessing a singular objective: to serve the Nation as its force of choice.



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This tradition of readiness, born in the earliest years of our Nation's existence and continuing unbroken through the Cold War right up to the present day, makes the Corps a unique institution within our national military establishment, and was formally articulated in law by the Congress in 1952:

"The Marine Corps, within the Department of the Navy, shall be so organized as to include not less than three combat divisions and three air wings, and such other land combat, aviation, and other services as may be organic therein. The Marine Corps shall be organized, trained, and equipped to provide fleet marine forces of combined arms, together with supporting air components, for service with the fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign.

"In addition, the Marine Corps shall provide detachments and organizations for service on armed vessels of the Navy, shall provide security detachments for the protection of naval property at naval stations and bases, and shall perform such other duties as the President may direct. However, these additional duties may not detract from or interfere with the operations for which the Marine Corps is primarily organized... ."

The Congressional Conference Report that supported the final legislation clearly explained the background behind our strategic concept and went on to say that history . . .

"has fully demonstrated the vital need for the existence of a strong force in readiness. Such a force, versatile, fast-moving, and hard-hitting, will constantly have a very powerful impact in relation to minor international disturbances. . . . Such a force can prevent the growth of potentially large conflagrations by prompt and vigorous action during their incipient stages. . . . The nation's shock troops must be the most ready when the nation generally is least ready. . . . to provide a balanced force in readiness for a naval campaign and, at the same time, a ground and air striking force ready to suppress or contain international disturbances short of large-scale war."

The words of the 82nd Congress, so carefully crafted and articulated nearly 45 years ago, provide us with the foundation we will use as we move into the 21st century.

Today the Marine Corps – fundamentally expeditionary and naval in character – is the premier crisis response force in the world. With the Navy, Marine forces can go anywhere rapidly and project force across any shore against any foe, sustaining themselves from sea or land bases. Marines forward deployed at sea aboard amphibious shipping are seldom more than a few days away from potential crisis areas. Marine combat support equipment and sustaining supplies are already stored on ships stationed at sea which can be met by Marines flying from U.S. bases in a matter of hours. Marines are a “full-up round” – self-contained, packed, and ready to fight for a sustained period without supply support from the U.S.

For a nation dramatically restructuring its defenses, the rationale for a Marine Corps has seldom been more compelling. Its unique blend of high readiness, integrated air-ground-expeditionary logistics structure, and versatility across a wide range of operational roles is ideally suited to meeting the challenges facing the U.S. in the late 1990's and into the next century. In responding to a crisis, the Marine Corps' high “tooth-to-tail” ratio enables delivery of maximum combat power in minimum time, with minimal dependence on reserve call-up to achieve initial full capability. Including its entire aviation component, the Marine Corps costs the American taxpayer barely seven percent of the total funds spent on defense, yet delivers a proportionally greater percentage of the Nation's forward presence and crisis response capability. These factors combined make the Marine Corps one of the most useful and economical instruments of national power in responding to crises and promoting stability in an increasingly chaotic world.

Although the Corps, per its legislative foundation, is a “Force of Combined Arms” equipped with small numbers of the necessary “things” to enable it to fight, the defining element of the Corps is, and has always been, people – *Marines*. Because of its taskings across a wide range of situations and roles, the Marine Corps measures its contribution to national capabilities in numbers of Marines, rather than particular numbers of systems like its heavier, equipment-intensive Service counterparts. Thus, the end-strength of the Corps – the numbers of Marines in its ranks – is the critical measurement of its capability to meet its taskings. Today, the end-strength of the Marine Corps is adequate for the tasks it is called upon to perform, but only just.

The FY97 Budget for the Marine Corps funds readiness over modernization – reflecting the difficult choice forced by sharp reductions in resources over the last ten years. But readiness tomorrow is dependent on investment today to replace aging, hard-used equipment, to maintain an aging infrastructure, and to conduct state-of-the-art training. Given the

Marine Corps' limited size, the investments needed to meet these requirements are relatively modest. Assuming they are made, another generation of Americans yet to come will be able to say: "The Marines have landed...and the situation is well in hand."



Emerging Challenges

New challenges abound in the emerging international system. The departure of failed Communist regimes and the aftershocks of a reunited Germany still reverberate throughout world capitals. The threat of global war between superpowers has vastly diminished, but unfortunately this has not ushered in the era of peace that many hoped for. The turbulence of this new era is especially vivid when one considers the littoral regions of the world.

In reviewing the major U.S. military operations since 1989 – Liberia, Bangladesh, Somalia, Rwanda, Philippines, Haiti, Cuba, and Kuwait – the significance of the littoral regions of the world becomes self-evident. In fact, most of the great crises of this century have occurred within the coastal areas of the world. Their importance is highlighted by the fact that 70 percent of the planet is covered by water and 80 percent of the world's nations and national capitals are in the littorals. Further, they contain over 100 cities with a population of a million or more and nearly all of the market places for international trade.

The challenges we face in the littorals are marked by increased crisis, increased involvement, and steadily diminishing access – well over 800 overseas bases have been closed, replaced, or reduced in the last four

years. This decrease in overseas presence, combined with the increase in littoral crises, create a pressing need for U.S. military forces that are versatile enough to handle a wide range of contingencies, yet powerful enough to win decisively when committed. Marine and Navy expeditionary forces with their advantage of forward deployment, including precise measures of escalation control and the ability to respond to fast-breaking events, have always been that kind of adaptable, effective force in the past, and will continue to be that force in the future.

Sea Power: A National Security Imperative

We are a maritime nation with global strategic linkages to regional powers on the rim of the Eurasian landmass and the vibrant emerging nations of the Pacific-Indian Ocean littoral, so our national strategy is necessarily transoceanic. Our national security strategy of engagement and enlargement reaffirms America's military forces will remain engaged overseas, able to rapidly project decisive combat power to protect vital interests. While it emphasizes the threat of weapons of mass destruction, the strategy's focus is clearly regional in scope. More importantly, it validates the Department of the Navy's timely shift in strategic focus articulated in "...From the Sea" and "Forward...From the Sea" and mandates a robust forward presence. These White Papers fundamentally shift the operational focus of the Sea Services toward projecting strength and influence along the world's littorals. This basic realignment in warfighting priorities is well underway and anticipates the demands of the changing strategic landscape.

Most fundamentally, Navy and Marine forces are designed to fight and win wars. In situations short of war, a vital role of sea-based forces is to be engaged in forward areas, with the objectives of *preventing* conflicts and *controlling* crises. Forward-deployed naval forces are a visible and tangible symbol of U.S. political commitments and military strength. The military capabilities of these forces serve to deter regional aggressors and maintain regional stability. They also remind potential belligerents that the entire military force of the United States may be brought to bear. By promoting peace through overseas engagement and partnership with our friends and allies, Naval forces prevent threats to stability and avoid the need to fight in defense of the Nation's vital interests.

Navy and Marine forces thus are the foundation of U.S. peacetime global engagement operations and overseas response to crisis.

They provide critical operational linkages between peacetime operations and the initial requirements of a developing crisis or major regional contingency. Recent experiences underscore the utility of these unique sea power capabilities, and the demand for Naval forces has never been higher. The U.S. Theater commanders – the regional Commanders-in-Chief (CINCs) – have consistently called upon Naval forces to handle operations in Somalia, Haiti, Cuba, and Bosnia, as well as our continuing contribution to the enforcement of United Nations sanctions against Iraq.

Modern Naval Expeditionary Forces

Modern Naval Expeditionary forces are unique National Security assets. No other nation has the flexibility or combat capabilities offered by these forces. The Navy/Marine Corps team provides a fully integrated air, land, and sea combined-arms force founded on expeditionary readiness, designed and employed to effectively and immediately confront threats at their source. They are power projection forces, but certainly much more. Power projection is just one of the options available to a naval expeditionary force. Operationally, Navy and Marine Corps forces are organized, trained, and equipped to accomplish a wide range of missions covering operations other than war to long range strike and early forcible entry to facilitate or enable the arrival of follow-on forces. These forces go rapidly and effectively where there is no infrastructure, and operate immediately upon arrival. They do this easily because they carry their infrastructure on their backs or in the holds of ships. Naval expeditionary forces are tailored force packages that can economically accomplish the mission without waiting for additional support. These forces are self-reliant, self-sustaining, and adaptable to the most austere environments. They are accustomed to dealing with uncertainty and adroit at handling adversity. Host nation support, while desirable, is not essential, and as Navy and Marine Corps units demonstrated in Somalia, they can operate effectively without it.

Naval expeditionary forces combine the complementary but distinct capabilities of the Navy and Marine Corps. Navy forces contribute sea-based assets that can operate unfettered in international waters, engage and train routinely with allies and coalition partners, maintain close surveillance of critical regions to establish and enforce embargoes and denial regimes, and station powerful carrier battle groups and amphibious forces, including Tomahawk-capable ships and submarines, for crisis response or war. They are capable of sustained, around-the-clock operations and most often are the Nation's preferred choice to support foreign policy objectives.

Marine Force Contributions

As the landward extension of Naval expeditionary forces, Marine forces significantly magnify their power and influence and are central to the littoral strategy. In light of their readiness, flexibility, and broad utility in times of crisis, Marine forces provide globally responsive assets for contingency missions in support of National Command Authorities' taskings. The Marine Corps' primary mission is to provide Fleet Marine Forces of combined arms, including integrated aviation and logistical elements, for service as part of a Naval expeditionary force. These two dimensions – the combined arms concept and the expeditionary focus, together with our Total Force package – make the Marine Corps a unique military organization. The capabilities which the Corps provides are essential to Naval expeditionary force success.

Combined Arms Concept

The Marine Corps organization for combat exploits the synergy inherent in closely integrated air and ground operations. Effectively blending infantry forces, artillery, armor, and tactical aviation from the water's edge to deep inland, the Corps generates maximum combat power with a minimum logistical footprint. Our air, ground and logistic components work together on a daily basis and deploy routinely as combined arms components of Naval expeditionary forces. They are equipped and trained to conduct forward presence and crisis response missions in the littoral regions of the world.

■ *Marine Air-Ground Task Forces (MAGTFs)*

Task Forces (MAGTFs): MAGTFs are the organizations through which Marine forces are tailored to meet specific operational requirements. They are the key elements of the Marine Corps contribution to Naval expeditionary capabilities. Depending upon the mission for which they are structured, they may include a wide range of combat power, including infantry, tanks, amphibious assault vehicles, light armored vehicles, artillery, and aircraft. MAGTFs range in size from small Special Purpose units to large Marine Expeditionary Forces (MEFs).



These task-organized, self-sustaining, rapidly deployable units provide combat power across a wide spectrum of operations, from short duration amphibious raids to large-scale, forcible-entry amphibious assaults and enabling operations. (See Appendix A.) Each MAGTF is an integrated combined-arms team, and regardless of size will normally be composed of a command element (CE), a ground combat element (GCE), an aviation combat element (ACE), and a combat service support element (CSSE).

■ **Command Element:** Provides inherent capabilities for exercising joint force command and control, intelligence fusion, and crisis action planning. Supports the overall operational objective of dominant **command, control, and surveillance** capability of Naval expeditionary forces.

■ **Ground Combat Element:** Conducts ground operations, using amphibious craft and transport helicopters, maneuvering from the sea, thus permitting the Naval expeditionary force to **project combat power ashore** at a time and place of its choosing. Close air support aircraft significantly add to the firepower necessary to ensure success of our combat elements.

■ **Aviation Combat Element:** Conducts air operations and assists the Naval expeditionary force to achieve its objective of **battlespace dominance** by providing the following six functions: antiair warfare, assault support, offensive air support, air reconnaissance, electronic warfare, and control of aircraft and missiles. The ACE may be employed from ships, forward expeditionary land bases, or a combination of both.

■ **Combat Service Support Element:** Provides a full range of support functions, operating from sea bases aboard naval shipping or from expeditionary bases established ashore, enables **sustainment of forces** – thus extending capabilities in time and space, supporting the full range of peace and wartime operations, and permitting the Unified Commander maximum flexibility in shaping response to crisis.

The Marine Corps combined-arms concept has been a distinct feature of our preparedness for several decades. This experience has enabled the Corps to work effectively with other Services and allied forces. Moreover, the Corps has excelled at innovatively adapting existing capabilities developed by other organizations for use in new applications. Marine forces are interoperable, both internally and externally, and effective in joint and combined operations. As operations become increasingly joint, the Marine Corps is well prepared to make significant contributions to integrated operations with the other Services. In addition to close cooperation with the Navy, Marines have fought and operated effectively alongside Army, Air Force, and allies in the past and are better

prepared to do so in the future. Because of its air-ground integration and close ties with the Navy, the Marine Corps has always been a “joint” force and will continue to train, fight, and win as a team.

Expeditionary Readiness

Marine expeditionary forces are sea-based power projection forces, but they are more. Expeditionary encompasses far more than the mere presence of forward-deployed Marine Expeditionary Units (MEUs) along the world’s littorals. Marine forces are like the warriors who man them. They have an expeditionary state of mind; they are comfortable with uncertainty and capable of handling adversity; they have the ability to adapt to “out there” and to improvise; they have an ability to start from scratch and make up solutions as they go; and they have the ability to do it with less. Expeditionary is force structure dedicated to immediate deployability, self-reliant and self-sustaining for all functions while en route and upon arrival. Although expeditionary forces are shaped for joint operations, they are not dependent on “jointness.” They are a full-up round, ready to go down range. The relevance of these capabilities to future contingencies in the littorals is self-evident.

■ *Maritime Prepositioning Forces*

A key piece of the Corps’ expeditionary capability resides in our Maritime Prepositioning Force (MPF). Three Maritime Prepositioning Squadrons (MPSRONs), with a total capacity to deliver equipment and supplies to support a MAGTF of one Marine Division, one Marine Aircraft Wing, and one Force Service Support Group, are strategically located just a few days steaming time from likely crisis locations. With their capability to offload pierside or at sea, an MPF MAGTF can go ashore even when faced with minimal or nonexistent port facilities. Perhaps more important, the MPF carries enough supplies to allow the MPF MAGTF to be self-sustaining for the first month of operation. The MPF provides the Nation a strategic deployment capability that is global in nature, naval in character, and suitable for employment in a variety of circumstances.

■ *Marine Aviation*

Marine fixed and rotary wing aircraft have been designed to provide a multi-mission capability, but it is Marine aviation’s expeditionary character that makes it unique among the aviation organizations of other Services. Alone among the aviation branches of the armed forces, Marine aviation can readily and routinely transition between sea bases and shore bases without substantial loss of capability. Both the FA-18 and the AV-8B Harrier can operate from sea-based platforms and quickly transition ashore to operate from expeditionary airfields, and even austere forward operating sites. Additionally, the

Harrier can land and take off vertically from extremely confined landing areas.

The expeditionary airfield (EAF) system allows committed forces to rapidly construct and operate stand-alone airfields – a significant capability which has no equal. Its flexibility provides numerous operational options. The logistical support needed to sustain Marine aviation ashore for extended periods in austere theaters is embarked aboard two Aviation Logistics Support Ships. These ships, the USNS *Curtiss* and USNS *Wright*, are maintained in the Ready Reserve, operated by the Military Sealift Command, and are used to transport critical intermediate-level maintenance and supply support to a forward operating area. They provide the CINCs with logistical leverage because of the varied employment and mobility options. Focused, versatile, flexible, and responsive to the needs of ground forces – Marine aviation is indeed a force multiplier.

■ **Total Force**

The Marine Corps Reserve is an essential part of the Naval expeditionary force team. Reserve units routinely exercise with the active forces and are assigned missions that lead to relevant, actual combat responsibilities. From Guadalcanal through the Chosin Reservoir to the Gulf War, a distinguished and essential contribution from the Marine Corps Reserve has been a standard feature of Marine Corps combat operations. One of the advantages of the Marine Corps, as a force-in-readiness, is that it does not have to pause to call up the Reserves in order to respond to our Nation's needs. However, this does not detract from the readiness of the Marine Corps Reserve to fight immediately, side-by-side with the Regular force when called upon in those situations requiring the extra force and durability provided by the Reserve. Our Reservists share the same commitment to expeditionary readiness as their active duty counterparts.

Today's Marine Corps – A Foundation for the Future

As our sister Services adjust to meet the security challenges of the emerging world, the Marine Corps today remains the Nation's expeditionary force-in-readiness envisioned by the Congress some forty years ago. There are several compelling reasons why the Marine Corps' strategic concept will remain valid for the foreseeable future.

■ First, Marine Corps force structure was least oriented toward the conflict conditions of the Cold War. Then, as now, our operational focus is expeditionary and directed at the likely areas of conflict.

■ Second, the National Military Strategy requires versatile, yet powerful forces that respond quickly to fast breaking events in regional situations. The Marine Corps has always been that kind of flexible, decisive force and has further enhanced its capabilities for these situations.

■ Third, the Marine Corps expeditionary readiness character is designed to be a responsive total force package. It does not require significant call-up of Reserves or massive national mobilizations for crisis response. These attributes make the Corps a preferred and politically attractive instrument for National Command Authorities' taskings.



■ Fourth, the Marine Corps has been, and continues to be, a relative economic bargain. The Corps has historically provided a proportionately larger share of the Department of Defense's operational forces than the resources it consumes.

■ Fifth, the economic focus of the world is shifting rapidly from Europe to the emerging economies of the Pacific-Indian Ocean littoral. Accordingly, the Pacific-Indian Ocean littoral will likely be a prime focus of future national security interest – a focus that can only be effectively addressed by Naval forces.

Already shaped by past Congressional and Marine visionaries, the Marine Corps remains today the Nation's responsive, versatile, expeditionary force-in-readiness for forward presence and crisis response. The Marine Corps will continue to be that force in the 21st Century.

Future Directions

Maintaining the strategic role and effectiveness of the Marine Corps requires continued investment in its capabilities. Today's unique and capable forces are the result of successfully responding to the needs of the Nation over the past 221 years.

From sharpshooters in the "fighting tops" of the Continental Navy to today's forward-deployed MAGTFs, the Corps continues to evolve and make significant contributions to our Nation's security.

Today the Marine Corps continues to explore and adapt new and innovative ways of adjusting our structure and organization to meet emerging security challenges. Our central focus is the enhancement of the individual Marine weapon system and its ability to win in combat. This is what is required to provide the capability the Nation expects from its finest military professionals.

The new generation of Marines has grown up in a climate of enormous technological change. The Marine Corps has only begun to exploit the possibilities offered by digital communications, micro-miniaturization, precision guidance, and a host of other technologies. But ultimately people, not machines, define our successes in war, and our relevance to the Nation. Accordingly, we will equip our Marines, not man our equipment. In addition to the integration of modern technologies, we are exploring innovative new warfighting, doctrinal, and organizational concepts which leverage the missions we face. Continuing the Marine Corps tradition of innovation, the following initiatives are underway:



■ ***Operational Maneuver from the Sea:*** This concept provides the joint task force commander with the ability to maneuver combat forces seamlessly from the sea to the objective area without the traditional impediment of the water's edge. Three key platforms, each at the cutting edge of technology, are required to turn this concept into reality. They are: a tiltrotor aircraft (MV-22 Osprey), an Advanced Amphibious Assault Vehicle (AAAV), and the Landing Craft Air Cushion (LCAC) vehicle already in operation. Continued development of these visionary enhancements opens a new window to forcible entry operations and provides a more effective crisis response and sustained combat power.

■ ***Commandant's Warfighting Laboratory:*** This initiative was established in October 1995 as the centerpiece for the operational enhancement of the Corps. The Laboratory will act as a test bed for integrating new developments. Its mission is to ensure the expeditious introduction of emerging technologies and advanced operational concepts into the Fleet Marine Forces.

■ ***Sea Dragon:*** This is one of many initiatives the Marine Corps is pursuing within the Commandant's Warfighting Laboratory. As an overarching process of experimentation, Sea Dragon encompasses inquiries into multiple technology and warfighting areas, including fires, biological and chemical and non-lethal technology, expeditionary logistics, and advanced training and education techniques.

■ ***Modeling and Simulation:*** This technology is critical to developing improved battlefield decision-making skills at the unit and individual levels. Modeling and simulation is actively being pursued to increase Marine Corps operational and training effectiveness. A major benefit is the application of simulations to reduce the time and cost of weapon system development.

■ ***Marine Corps Process Improvement Program:*** This effort seeks to reengineer key management processes to achieve the best return for the invested dollar. This effort will review all processes and functions in the Marine Corps, eliminate those no longer necessary, and improve those that are required. Through Functional Process Improvement and reengineering initiatives, the overall objective is to provide high quality, cost-effective, combat ready forces.

■ ***Joint Task Force Headquarters:*** This initiative explores development of Joint Task Force Command and Control capabilities in Marine Expeditionary Units. The Corps possesses extensive operational expertise in integrating multiservice command and control doctrines into

an effective joint headquarters. Developing a standing JTF HQ capability as part of its forward operating Naval expeditionary forces would significantly improve the introduction of follow-on joint and combined forces. This capability would provide an immediately available headquarters for National Command Authorities and CINCs to effectively plan responses to emerging crises.

Our Corps has built a legacy based on innovative contributions to American warfighting capabilities. Born of the requirement for flexibility, constrained by the limitations of lift, yet always mindful of the need for self-sufficiency, Marines have historically sought multipurpose, rather than specialized, weapons and systems. Driven by these absolute necessities, Marines have helped to create some of the most useful weaponry, equipment, and operational concepts for warfighting in this century. Marines were foremost in the development of amphibious doctrine and pioneered the development of close air support as well as the use of helicopters to multiply the effect and expand the scope of amphibious warfare. Today, Marines carry on this innovative tradition by developing and using prepositioned forces, vertical takeoff aircraft, virtual reality training techniques, and new doctrine and procedures for response to chemical or biological attacks.

Finally, the flexibility and readiness so essential to the Marine Corps are further enhanced by the adaptability and imagination that characterize Marines and Marine leadership. To refine these capabilities, the future education, training, and doctrine imbued into our men and women will emphasize rapid decision making under duress, skills to translate judgments and decisions into relevant orders and staff actions, and execution abilities that enable dominant tactical and military success in operations short of war or decisive victory in combat.

A 21st Century Force-In-Readiness

The Marine Corps will remain the Nation's premier force-in-readiness; it will continue to meet the needs of a dynamic security environment. It will remain prepared to fight, on the shortest notice, under any circumstances, and in any size conflict. We will continue to be a force rich in history and traditions, but capable and ready to innovate and change, while always maintaining the highest values of honor, courage, and commitment. Individual Marines, the world's finest military professionals, will continue to be trained and educated to act intelligently and independently, to seek responsibility, to be accountable.

This armed force will continue to be the world's finest military professionals – motivated, dedicated warriors – who will be required in future conflicts. It will be an aggressive force with effective leaders possessing the abilities to rapidly observe, orient, decide, and act to achieve decisive results.

As a *learning organization*, we will build upon success and institutionalize military excellence. While maintaining professionalism, we will also be a Total Force, Active and Reserve, able to effectively integrate a full range of capabilities – ours as well as those of other Services, agencies, and nations – into a unified and focused instrument of national power.

The Marine Corps will continue to be an economical force – providing the Nation a high return on investment. The Marine Corps costs the taxpayer about seven percent of every defense dollar spent, yet we provide about twice that percentage in combat forces. As the Nation's leaders look for ways to maximize the use of defense dollars, the value and leverage provided by the Marine Corps in terms of “bang for the buck” and “tooth-to-tail ratio” will be increasingly recognized.

Innovation and improvisation will remain the foundation upon which we will build the future vision of the Corps. Marines will continue to show the same ingenuity and creativity that were used to develop the amphibious doctrine before World War II, the close air support tactics during the Korean War, and the Marine Expeditionary Unit concepts which have served our Nation so well over the last decade.

Building upon this framework, we will be well prepared to handle a wide diversity of missions across the entire spectrum of scenarios, ranging from a military attack against our Nation or its interests, to acts of political violence against Americans abroad, to those operations currently described as “Military Operations Other Than War.” Operating forward, in fully capable combined arms teams, we will remain fundamentally naval and expeditionary in character, as comfortable on the seas as on the land and in the air. With the Navy, we will be able to go anywhere rapidly and project force across any shore against any foe, sustaining ourselves from sea or land bases. The Corps will be recognized as the Nation’s force of choice – ever ready to project the power and influence of the United States from the sea and to any foreign shore.

Chapter 2

Concepts and Issues

Declining resources and possible transformation in the nature of warfare, as a result of revolutionary technologies and ideas, have forced all the Armed Services to reexamine their strategic concepts and the unique contributions they bring to the joint family of military capabilities. Debate on the following issues is an essential part of the National Security process and an important means of ensuring an effective and affordable defense posture.

In this environment, achieving support for those concepts and programs which underpin the maintenance of highly capable Marine Corps forces requires an informed consensus among the public, industry, Congress, and the national leadership. This Chapter presents key concepts and issues facing the Marine Corps that are important to the debate.



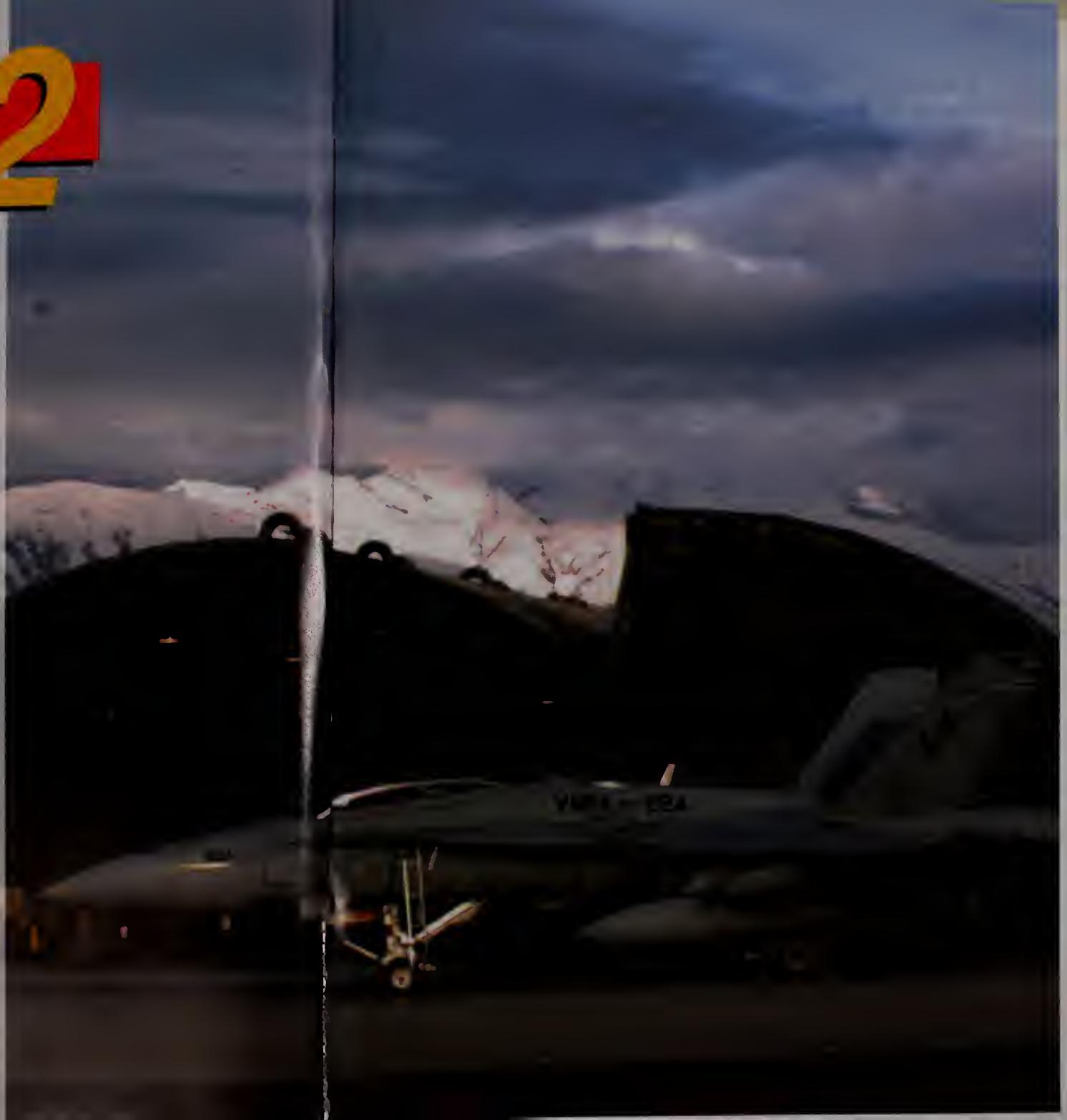


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Power Projection Capabilities

Discussion

Rapidly projecting decisive military power is key to the National Military Strategy in which Marine amphibious and maritime prepositioning forces play a critical role. Revitalizing the necessary platforms and improving the effectiveness of these expeditionary forces is a major goal. To fully exploit development of these capabilities, the Marine Corps will consistently blend future technology with newly developed operational concepts. Today, the Navy/Marine Corps team is rapidly implementing our strategic and operational concepts set forth in the White Papers of **Forward...from the Sea** and **Operational Maneuver from the Sea (OMFTS)** to take full advantage of the littoral environment and the maneuvering space it provides. Emerging technology now makes the **OMFTS** concept a near-reality and enables a tremendous increase in the flexibility, agility, and lethality of our Marine expeditionary forces while significantly expanding our Naval power projection capabilities. The following initiatives are key to the achievement of our operational objectives:

■ **Advanced Amphibious Assault Vehicle (AAAV)** is critical to our future ability to project power inland from amphibious ships. Increased speed and survivability allow a faster buildup of combat power ashore, ensuring greater force survival and effectiveness to fight the land battle. These capabilities expand our ability to implement tactical maneuvers from ship to objective area from over-the-horizon, creating significant operational advantages. The AAAV will replace the current AAV7A1 family of amphibious assault vehicles which will reach the end of their service life within the next ten years. Additional details are provided later in this Chapter and in Chapter 4.

■ **V-22 Osprey tiltrotor aircraft** (part rotary wing/part fixed wing) allows combat power to transition ashore faster and increases the depth of the battlefield through its enhanced range, endurance, and flexibility. It replaces the aging medium lift CH-46 Sea Knight and CH-53D Sea Stallion. While fulfilling the Marine Corps' critical medium lift requirement, the V-22's increased capabilities provide significant tactical leverage. The V-22 is integral to making OMFTS a reality. Additional information is provided later in this Chapter and in Chapter 4.

■ **Maritime Prepositioning Ship (Enhancement)**. Additional ships are needed to enhance existing MPS Squadrons and fill deficiencies noted during the Gulf War. These new ships will carry additional equipment and supplies to include: an expeditionary airfield, Naval

Mobile Construction Battalion, and fleet hospital equipment. The result will be a much more capable MPF. Further details are provided later in this Chapter.

■ **Shallow Water Mine Countermeasures (SWMCM)** program is designed to improve critical deficiencies in mine countermeasures. The development of this technology and systems to detect, clear, and neutralize these threats is vital to allow our forces to maneuver unencumbered throughout the littoral areas under the **OMFTS** concept and to effectively project power ashore.

■ **Naval Surface Fire Support (NSFS)** is an essential dimension of our power projection capabilities. The current program is focused on development of a high energy gun modification to the existing 5-inch/54 caliber mount and the Extended Range Guided Munitions (ERGM). This program is expected to meet Marine Corps operational requirements by FY 2001. The long-term program calls for the development of a larger caliber gun and/or the shipboard adaptation of extended range missile systems similar to ATACMS, Sea SLAM, or Standard strike variants. These enhancements will provide a critical boost to Marine amphibious capabilities and result in extended, more accurate, and more lethal support to maneuver forces ashore.

■ **M1A1 Main Battle Tank (MBT)** provides the direct fire needed by the Marine Corps in its role as the early arrival expeditionary force. As the Corps uses both its active and reserve tank battalions in responding to expeditionary operations, both components require the lethality and survivability of the M1A1.

Marine Corps Position

Technological advances are enabling the Marine Corps to rapidly advance **OMFTS** from the concept stage to reality. Our acquisition focus will be on technological initiatives that provide a cost-effective improvement to the mobility, flexibility, and lethality of our Marine expeditionary forces. Support for these programs will be in concert with both the National Military Strategy and the objectives of the Marine Corps in supporting that strategy.

Amphibious Shipping

Discussion

Naval expeditionary forces, with embarked Marines, provide forward presence and flexible crisis-response forces for the execution of foreign policy objectives. These forces provide the most formidable forcible entry capability in the world. The development and maintenance of these capabilities are the direct responsibility of the Marine Corps as directed by Congress in the Title X roles and missions legislation.

Amphibious lift requirements derive from assessments which were developed to support the National Military Strategy (NMS). Total lift capacity must be tailored with the right *numbers* and the right *types* of ships to meet real world day-to-day commitments as well as combat surge capabilities.

Current forward deployment tempo requires twelve Amphibious Ready Groups (ARGs) to meet U.S. forward presence commitments in the Mediterranean, Persian Gulf, and Western Pacific. The big deck amphibious ships (LHA/LHD/LPH) are the heart of every ARG, and currently eleven ships are in the inventory. The current program will bring the number of big decks to twelve, as three new LHDs will replace two aging LPHs over the next five years.

The Mobility Requirements Study (MRS) indicated the need for approximately 3.0 Marine Expeditionary Brigade (MEB) equivalents of surge lift. Fiscal constraints, however, have limited the lift to a programmatic goal of 2.5 MEBs. Current shortfalls in vehicle lift are being alleviated by Navy initiatives to maintain several LKAs and LSTs in the Naval and Ready Reserve Force. This will reduce risks until the LPD 17 class is in commission.

The shortfall in amphibious shipping to support the NMS remains an area of concern. Early retirements and block obsolescence have sharply reduced the total number of amphibious ships. Accordingly, the LPD 17 program, designed to be the functional replacement for the lift provided by four ship classes (LPD, LSD, LKA, LST), becomes essential. This program provides an affordable, air-capable, LCAC-capable, wet-well ship that is optimized to meet the required demands.

Marine Corps Position

Adequate numbers of the right types of ships with the right capabilities are required to meet future amphibious operational requirements. Astute and thoughtful investment in the amphibious ship-building program is required. Naval expeditionary forces require a 12th big deck (LHD) to support worldwide forward presence, and a near-term start-up of the LPD 17 program with a procurement profile that will provide funding for the quickest, most economical commissioning of all twelve ships.

Maritime Prepositioning Forces

Discussion

Maritime Prepositioning Forces are a naval power projection asset that significantly support the employment of Naval expeditionary forces. The three current MPS squadrons, composed of 13 ships, provide our Nation a unique geo-strategically prepositioned capability. Employment of MPS assets during **Desert Storm/Desert Shield** and **Vigilant Sentinel** against Iraq and in **Restore Hope** and **Continue Hope** in Somalia decisively demonstrated the utility of these expeditionary assets. Coupled with fly-in Marines and Sailors, MPF provided the first substantial ground defense, humanitarian relief, and security capability in-theater. Further, MPS squadrons provided sustainment for U.S. Army units in the first month of Operation **Desert Shield**.

Lessons learned during these operations revealed the need for improvements in MPF lift capacity. Our MPF (Enhancement) program would add an additional ship to each squadron (a total of three new ships). These additional ships would be loaded with heavy engineer support equipment, fleet hospitals, USMC joint task force infrastructure equipment, and expeditionary airfield (EAF) sets. The EAFs would dramatically increase our combined-arms combat power without dependence on existing airfields or aircraft carriers. In support of this concept, Congress has appropriated \$110 million for the procurement of the first MPF enhancement ship.

Marine Corps Position

The MPF concept remains a relevant and proven capability which provides a cost-effective increase to U.S. crisis response capabilities. It is consistent with **Forward...From the Sea** and significantly increases responsiveness to contingencies and improves operational flexibility for combat, disaster relief, and humanitarian assistance operations.

Advanced Amphibious Assault Vehicle

Discussion

In the 1980's, the Navy and Marine Corps developed the concept of over-the-horizon (OTH) assaults to avoid enemy strengths and exploit enemy weaknesses, and to protect Navy ships from an increased land-based and sea-based mine threat. Together with the V-22, the AAAV Program will complete the amphibious triad (AAAV, V-22, LCAC) needed to fully implement this new concept. All components of the triad are critical to execute the types of OTH assaults envisioned in **OMFTS**. The AAAV is especially important to provide a truly capable surface assault force that can quickly secure a landing area and build up forces rapidly to face increasingly sophisticated threats. The ability of the AAAV to swiftly and independently transit from over-the-horizon provides the spear of the assault and frees up LCACs to bring in the needed supporting firepower immediately behind. This one-two punch may very well be the decisive factor in the success of the assault. In addition to its high speed enabling transit, the AAAV will bring superior land mobility and tremendously increased firepower compared to the current assault vehicle.

The AAAV's unique capabilities include: (1) over three times the water speed of the current AAV7A1; (2) nearly twice the armor protection of the current AAV7A1 (already enhanced by appliqué armor); (3) ability to defeat future threat light armored vehicles; (4) land mobility equal or greater than the M1A1 tank; (5) lift and carrying capacity for a reinforced rifle squad; and (6) the only embarked infantry NBC collective protective combat vehicle system in the U.S. inventory. All of these capabilities will increase the survivability of the amphibious assault forces and the flexibility of future Task Force Commanders.

Marine Corps Position

The AAAV Program will allow the Navy and Marine Corps to seamlessly link maneuver at sea with maneuver ashore. It has been approved to proceed into its Demonstration/Validation Phase and fulfills a critical deficiency in the over-the-horizon forcible entry capability that is a key component of **OMFTS**.

Medium Tactical Vehicle Remanufacturing Program

Discussion

The primary mission of the Marine Corps medium tactical wheeled fleet is logistical support. This fleet transports general cargo, personnel, ammunition, bulk fuel, water, shelters, and standard containers in addition to being the prime mover for Marine Corps artillery. The medium fleet's central logistics role and the expeditionary nature of the Marine Corps require mobile, yet self-sustaining, systems that can maintain full mission capabilities pending buildup of extensive combat service support ashore. The current medium fleet is approaching the end of its economic useful life and requires improvements to overcome deficiencies in off-road mobility, off-road speed, payload lift capacity (particularly for high density loads such as ammunition and bulk liquid), and reliability and maintainability.

The Medium Tactical Vehicle Remanufacturing (MTVR) Program is designed to correct these deficiencies by upgrading the current system through a remanufacturing process. Remanufacture is preferred because it is more cost-effective than buying a new system. The program will integrate commercially available components into the current vehicle, e.g., electronically controlled power trains and improved suspensions. The new vehicle will increase mobility (designed for 70% of operations off-road and 30% on-road), increased payload capacity to at least 7 tons off-road and 12 tons on-road, be capable of 30 mph sustained speed over rolling terrain, and be easier to operate and maintain. The increased payload ranges reflect realistic loads for bulk liquids and ammunition. The increased speed and mobility will allow operational forces greater flexibility to rearm, refuel, and resupply where it makes the most tactical sense and not where the current limited logistics train dictates. Improved suspensions, robust power trains, and other technical improvements, such as giving the driver the capability to adjust tire pressure from the cab and a greater capacity to absorb terrain induced shock and vibration have been incorporated. This improves reliability and maintainability and reduces driver stress and cargo damage, even at the higher speeds over rougher terrain.

Marine Corps Position

The MTVR will give the Marine Corps a fully mission-capable, robust, medium vehicle to meet the demands of supporting Marine operational forces in increasingly difficult terrains. The MTVR program has validated the concept of integrating existing technology to improve mobility, payload, speed, reliability, and maintainability.

V-22 Osprey

Discussion

Today, the Corps stands on the threshold of a revolutionary capability employing 21st century technology. Recognizing the tremendous operational advantages of such an innovation, the Marine Corps has championed the development of tiltrotor technology. The impact of this capability will be as far-reaching as the Marine Corps' introduction of battlefield helicopters in the Korean War.

In December 1994, the Secretary of Defense announced the decision to replace the CH-46 Sea Knight with the V-22 Osprey. The tiltrotor aircraft has greater speed, range, and payload, and will carry 24 combat loaded Marines. The V-22 will enable the MAGTF to exploit its combat power and more effectively apply the concepts of **OMFTS** well into the 21st century.

Strategically mobile, the Osprey is capable of global self-deployment with its aerial refueling ability. The combination of range, speed, and payload of the V-22 nearly triples the depth of the present day battle space. This significantly complicates an enemy's defensive requirements and inhibits the opportunity to concentrate his forces. This aircraft allows Navy ships adequate stand-off distance to respond to systems such as shore-to-ship missiles, enhanced observation, underwater mines, and other developing threats. With a cruising speed of 270 knots, the V-22's greater speed and designed-in survivability will reduce combat fatalities, saving our most valuable asset – American lives.

In today's regional environment, the expeditionary Marine is the most capable and cost-effective option among deployable conventional forces. The support these Marines receive must be as comprehensive as possible. With the arrival of the V-22 in the Fleet Marine Force, this breakthrough technology will provide the decisive edge needed to prevail against the increasing sophistication of regional aggressors.

Marine Corps Position

Marines will need new concepts to win quick, decisive victories with minimum casualties in the battlespace of the future. The V-22 enables a revolutionary approach to power projection operations. It remains the Marine Corps' number one and most critical acquisition priority.

Joint Advanced Strike Technology Program

Discussion

The Defense Department established the Joint Advanced Strike Technology (JAST) program to develop technologies that would lead to replacements for several different aircraft systems. It is the overall intention of the JAST program to provide the next generation aircraft for the USMC, USAF, USN, and the British Royal Navy. Specifically, the USMC needs to replace the AV-8B and F/A-18C/D aircraft with a single Short Take-Off and Vertical Land (STOVL) platform. The USAF needs a replacement for the F-16. The USN is interested in obtaining a first day of the war, survivable aircraft to complement the F/A-18E/F. The Royal Navy is interested in replacing the Sea Harrier with a STOVL Fighter/Attack aircraft. Thus the JAST program strives to fulfill the needs of all three Services, and the Royal Navy, through the concept of a *family* of operational aircraft. This approach will optimize commonality between variants and minimize aircraft life cycle cost. This family of Joint Strike Fighter (JSF) aircraft will include a STOVL variant (USMC & RN), a Conventional Take-Off and Land (CTOL) variant (USAF), and an Aircraft Carrier capable variant (USN). The responsibility for meeting these Service requirements with this next generation strike fighter rests within the JAST Program Office.

The Marine Corps requirements for this aircraft are focused on readiness, expeditionary capability, and the combined arms concept. The primary missions for the Marine Corps Joint Strike Fighter will remain close air support, interdiction, and anti-air warfare. Secondary missions will include suppression of enemy air defenses, command and control of aircraft and missiles, and reconnaissance. The Marine STOVL version of the Joint Strike Fighter must be lethal, responsive, flexible, and must fit our neckdown strategy. The aircraft must be survivable and supportable, as well as light enough for our expeditionary character so that it can go wherever we go. Furthermore, the next generation strike fighter must be affordable in order to ensure that sufficient numbers are available to keep the character and capability of Marine Corps aviation, and the MAGTF, at the forefront.

Marine Corps Position

The JAST Program will provide the Marine Corps with a STOVL version of the Joint Strike Fighter. Delivery of this aircraft, beginning around 2007, will solve Marine Corps Tactical Air aging and attrition problems while meeting our goal of “necking down” to a single type aircraft.

Marine Helicopter Recapitalization

Discussion

Early in the development of tiltrotor technology, the Marine Corps envisioned a single multi-role aircraft that would complement the capabilities of the V-22. This platform would perform the observation, attack, and utility missions of the OV-10, AH-1, and UH-1 aircraft. This concept, called VMAO, was to take form just after the turn of the century. Fiscal limitations, however, have delayed our ability to develop this concept.

The Marine Corps has a long history of innovative solutions to warfighting requirements. In the past, when faced with the expense of replacing older aircraft such as the early versions of the AH-1, CH-46, and AV-8, the Marine Corps found affordable solutions by modernizing existing aircraft. This is the approach taken to upgrade the fleet of utility and attack helicopters.

On 28 August 1995, the Secretary of the Navy approved the Marine Corps program to upgrade both utility and attack helicopters. This program, known as the 4BW/4BN, recapitalizes the entire 280 aircraft fleet (180 AH-1W and 100 UH-1N). This is accomplished through the remanufacture of existing AH and UH airframes with the installation of a four-bladed rotor system, a newly developed drive train, and the more powerful T700 engine. Cockpit integration and modern avionics systems will also enhance joint interoperability as both aircraft will be able to



transmit and receive information from aircraft or ground units of the other Services. In sum, this program incorporates all previously funded or planned modifications into one program, avoiding the cost of a “new start” replacement aircraft now, and enables planning for a Joint Replacement Aircraft after 2020.

The 4BW/4BN program will dramatically increase the range, speed, payload, and lethality of the fleet while decreasing our logistic footprint. The utility variant will operate at nearly twice the current range with over double the payload. The attack variant will realize similar performance increases but will also carry twice the current load of precision guided munitions (16 total) by the addition of two ordnance stations. Both aircraft will achieve speeds of over 150 knots at most mission weights. Through use of the same major components, parts support for the fleet will be simplified, resulting in more space available on space-constrained amphibious and MPF ships and a leaner logistics train. Moreover, these improvements now make the Marine Corps attack and utility helicopter capabilities more compatible with the performance demands of **OMFTS** concepts.

Marine Corps Position

The 4BW/4BN program is a key modernization effort that will resolve existing operational safety issues, significantly enhancing the capability and operational effectiveness of the attack and utility helicopter fleet and do it economically. It will provide a bridge to a Joint Replacement Aircraft in the 2020 time frame when those capabilities can be fully realized.

Marine TACAIR

Discussion

Marine aviation's expeditionary character makes it a unique capability. It has been designed to effectively operate across the spectrum of basing options. Marine squadrons have deployed aboard aircraft carriers continuing a long tradition as sea-based airpower or from conventional airfields such as those used during operations in the Persian Gulf and in support of operations in the former Yugoslavia. In the absence of adequate runways, Marine aviation's expeditionary airfield system provides the capability to rapidly construct stand-alone airfields to support forward-based tactical air operations.

Historically, the flexibility of Marine TACAIR to integrate with and reinforce Naval operations is well established. Marine squadrons deployed aboard aircraft carriers in World War II and the Korean War. During the Vietnam War, Marines flew from carrier decks and participated in operations such as **Linebacker II**. More recently, Marine squadrons took part in Operation **El Dorado Canyon**, the air operations against Libya, while assigned to the USS Coral Sea in 1986. To date, Marine squadrons, operating as part of Navy Carrier Air Wings, have participated in such operations as **Southern Watch**, **Restore Hope**, **Deny Flight** and **Deliberate Force**. Marine TACAIR squadrons not deployed with the Navy continue to operate as integral parts of MAGTFs.

Operationally, integration of active and reserve Marine air enhances the already formidable carrier air wing capabilities with highly effective close air support assets capable of expeditionary operations. Further, the additional Marine Corps squadrons eases the personnel tempo burden on Navy personnel. Integration, however, has limits beyond which there are negative impacts. Specifically, the inevitable increases in Marine Corps deployment tempo, with its potential affects on retention and quality of life, together with reductions in the integrated MAGTF training portend an overall loss in Naval warfighting capabilities.

In August 1994, the Commandant and the Chief of Naval Operations agreed to place all DON TACAIR resources under central management for deployment scheduling. The Memorandum of Agreement (MOA) replaced a 1993 MOA which dedicated three strike fighter and one electronic warfare squadron to the active carrier wing pool. Now all Navy and Marine squadrons will be available under a standard criterion of personnel tempo, which is defined as no more than 50 percent away from home base over a five-year period. Deploying Marine squadrons will report to designated air wings six to nine months in advance of scheduled

deployments, and remain with them until a month following the cruise. Conversely, Navy squadrons satisfying Marine Corps commitments will be available for training six to nine months prior to deployment.

Marine Corps Position

Air support to the MAGTF commander remains the Marine Corps' primary aviation concern. Units scheduled in support of MAGTF elements must be trained to a level of proficiency which satisfies the MAGTF commander. Each Service brings unique capabilities to joint warfare which, when integrated under joint doctrine, improves Service interoperability and overall warfighting effectiveness.



Marine Corps Readiness

Discussion

Preserving readiness in the current resource constrained environment requires maintaining a delicate balance between forces, necessary recapitalization, and realistic modernization programs. To this end, available funding must be carefully metered to cover all the accounts harboring recognized readiness indicators. This is a significant challenge and impacts all the armed forces. The high operating tempos of the last two years have placed particular strain on two key account areas – manpower and equipment. As operational employments exceed utilization forecast, greater resources must be devoted. For equipment this means greater expenditures on maintenance in the near-term coupled with a commitment to procure adequate replacements as hardware wears out. For manpower, it means ensuring adequate numbers to avoid excessive deployments on particular personnel, as well as adequate facilities for family support. Maintaining force structure, facilities, and equipment into the 21st century in this austere fiscal environment will remain a significant challenge.

One aspect to maintaining a readiness balance is to measure and, to the extent possible, forecast future readiness. Efforts to improve readiness assessments continue and are based on patterns which further define and quantify military readiness indicators. This process involves combining objective standards-based measurements with commanders' subjective assessments regarding the ability of units and individuals to fight and win on today's battlefield. The Marine Corps is committed to developing measures to indicate predictive readiness. As a first step, we will utilize the newly fielded Marine Corps Training, Exercise Employment Plan (MCTEEP) as one additional readiness assessment tool. Currently implemented throughout the MARFORs, MCTEEP will show the impact of tempo on readiness. Future MCTEEP programs will support predictive readiness.

Marine Corps Position

Ensuring operational readiness is vital to the Marine Corps' ability to accomplish its mission. Current funding is adequate to ensure a capable, ready, and relevant Marine Corps, but the balance of readiness is fragile. If projected budget levels continue, maintaining readiness will be at the expense of modernization, and future force capabilities will be at risk.

Quality of Life

Discussion

Readiness and operational responsiveness remain the Marine Corps' number one priority. If we are to fight and win, as our Nation expects of its Marines, then we must be ready. Quality of life is without question a key component of the readiness equation.

Quality of Life for the Marine Corps is defined as "the result of the sum of all programs, systems, organizations, individuals, and initiatives that contribute to the physical, mental, financial, and emotional well-being of a Marine or a Marine's family; to a Marine's individual or unit mission accomplishment; and, to the personal readiness of all Marines to serve wherever required."

We cannot over-emphasize the importance of quality of life programs as a force multiplier for personal readiness and reenlistment intent. Fiscal constraints have forced the Corps to make difficult choices between operational readiness and quality of life programs. These choices have, in some categories, kept us below par in per capita spending for our support programs when compared to the other Services. Secretary of Defense Perry's initiative to increase quality of life funding for all Service members is a recognition of the importance of these programs to readiness. The impact will be improved conditions for all Marines and their families.

The Marine Corps is committed to improved investment in quality of life programs. In an exhaustive two-year study, the Marine Corps identified military member quality of life needs and is assessing the Marsh Panel recommendations for improving military housing, personnel tempo, and community and family services. The results of these efforts are being incorporated into our strategic plan for quality of life – "Marines 2001 - A Quality of Life." This plan will guide our efforts in this area and allow us to better reflect our requirements and assess progress. In our drive to improve quality of life we will not lose sight of our commitment to warfighting capabilities and requirements but will seek to effectively balance all the elements of Marine Corps readiness.

Marine Corps Position

The Marine Corps is committed to improving the quality of life of all Marines and their families. "Marines 2001 - A Quality Life" is more than a slogan. It is a key element in the long term readiness and responsiveness of the Marine Corps.

Recruiting

Discussion

The Marine Corps Total Force depends on the steady flow of new recruits and officer accessions. Over the past year the Marine Corps continued to successfully battle one of the most difficult recruiting environments in the history of the all-volunteer force.

The coming years present the Marine Corps recruiting program with a critical test. Among the Services, recruiting quotas continue to notch up while the overall interest in joining remains low. These dynamics are further aggravated by the fact that the market of recruitable 17 to 21 year-olds is one of the smallest in history, unemployment remains low, college enrollment continues to grow, many schools are indifferent toward military recruiting, and an array of sociological trends are at work making it more difficult to find well qualified applicants.



In the midst of these circumstances, the Marine Corps is also striving to gain for our recruiters (and their families) a quality of life that is comparable to that of other service members. A variety of initiatives are underway to address this situation.

As we transition to the future, a smaller Corps and rapid technological advances require Marines with talent and versatility. Hence, the need for quality recruits has become more critical than ever. Quality recruits mean better performance, less attrition, and improved unit readiness. High quality recruits are a cost-effective investment and the lowering of quality standards is false economy. As a priority matter, therefore, the Marine Corps will maintain its standards despite the troubling trends.

In spite of the challenges, there is good reason for optimism. Recruiting difficulties have gained leadership and Congressional attention. Moreover, the size of the youth population will begin to grow steadily, although slowly. Most importantly, the American people continue to value what the Marine Corps represents.

With their support, through our enduring image, and by continuing to emphasize the unique attributes of being a Marine, the Marine Corps will continue to attract sufficient numbers of high quality, young Americans with the will to serve.

To ensure the necessary flow of quality recruits, we must maintain a solid team of recruiters. We need to arm them with the support and resources to accomplish their mission with reasonable effort and an improved quality of life.

Marine Corps Position

The individual Marine is our most precious asset. A top priority, therefore, is continued successful recruitment of this Nation's finest young men and women. The Marine Corps remains committed to a strong and adequately resourced recruiting program.

Marine Corps Infrastructure

Discussion

The bases and stations which comprise the Marine Corps infrastructure are an essential element of its readiness. In keeping with our expeditionary nature, the 16 major installations in the U.S. and Japan are strategically located near air and sea ports of embarkation. They are serviced by major truck routes and railheads that allow for the rapid and efficient movement of Marines and materiel.

Infrastructure management and planning are focused on providing facilities for the efficient training of our air/ground combat team. Maintaining a cost-effective system in the face of increasing external pressures and declining fiscal resources has brought about difficult challenges. These include environmental compliance, encroachment control, civilian manpower constraints, base realignment and closure decisions, and quality of life concerns. The issues involved are:

■ ***Environmental Compliance.*** While protection of the environment is a high DON priority, declining fiscal resources have made reorienting management practices, replacing aging infrastructure, and the implementation of protection initiatives to meet new compliance requirements increasingly difficult. Two strategies being instituted to achieve economical and sustained environmental compliance include pollution prevention and ecosystem (vice species) management.

■ ***Encroachment Control.*** Our installations continue to experience growing community pressures for access and increased regulatory requirements (e.g., endangered species) which have curtailed operations and eroded access to training areas. The Marine Corps maintains an aggressive encroachment control program, which has resulted in win-win solutions to meet these demands while not degrading the mission effectiveness of our installations.

■ ***Base Operating Support.*** Providing an efficient infrastructure with the necessary facilities and quality of life features requires investment in both maintenance and capital improvements. Fiscal constraints continue to increase the backlog of maintenance and repair, and an increasing percentage of limited military construction dollars have been directed into environmental compliance. These pressures have not allowed sufficient resources for the replacement of an aging plant. In part, these challenges are being met with technological initiatives to increase productivity; however, continuation of current trends will require increased funds for these programs.

■ **Civilian Manpower.** Effective installation management requires diverse skills ranging from electrical and plumbing trades to professionals trained in environmental science and law. With the lowest ratio of civilian to military employees within DoD, the Marine Corps has actively pursued more efficient business practices, including outsourcing and the use of low maintenance technologies. However, continued reduction of civilian personnel is impacting our ability to provide a sufficiently skilled workforce to adequately maintain our infrastructure.

■ **Base Realignment and Closure.** During this period of force and base structure reductions, finding the means to further reduce infrastructure capacity, while providing adequate facilities to meet the needs and maintain the integrity of our MAGTF organizations, is an increasing challenge. Decisions made during 1995, as part of the last round of base realignments and closures, provide the infrastructure blueprint to support the Marine Corps well into the next century. Implementing these decisions will have significant up-front costs to achieve long-term economies and will require a continued resource commitment.

■ **Quality of Life.** We are a people-intensive Service. A supporting establishment that helps attract and retain our outstanding Marines, Sailors, and their families requires a commitment to their quality of life. This requires providing housing, recreational amenities, child care facilities, family services, community support centers, and more. Our Bachelor Housing Campaign Plan proposes aggressive strategies for building new barracks and quickly revitalizing barracks that should be retained. Our Family Housing Campaign Plan is a broad-based approach to maintaining, repairing, and improving our existing family housing inventory, and reducing housing deficits in high cost areas with traditional and creative financing mechanisms. We will maintain this commitment to quality of life infrastructure improvements through the collective leadership skills and managerial abilities resident in the operating forces and the supporting establishment.

Marine Corps Position

The Marine Corps is committed to providing an economical infrastructure – one that minimizes redundancy and improves training capabilities while providing the necessary quality of life and environmental stewardship of our resources. The results of our deliberate planning will mean an infrastructure unparalleled in capability and efficiency to support America's expeditionary force-in-readiness.

Marine Corps Total Force

Discussion

Our success in combat, and as an expeditionary force-in-readiness, stems from our commitment to a seamless Total Force Concept. Our Marines, active and reserve, retirees and civilian employees, work and train together to ensure we are a viable force. The quality of this commitment has been continually revalidated from the Gulf War to present day operations.

The ability of the Marine Corps to contribute to the Nation's foreign policy objectives is directly related to its size. In FY94, the Secretary of Defense directed a Marine Corps Total Force level of 174,000 active and 42,000 reserves. At this strength level, the Marine Corps is fully capable of performing tasks assigned by the Joint Chiefs of Staff and theater CINCs while maintaining acceptable personnel tempo for Marines and their families.

The mission of the Marine Corps Reserve is to provide trained and qualified units and individuals to be available for active duty in time of war, national emergency, and at such other times as the national security may require. Since **Desert Storm** the Reserve Component has been increasingly called upon to provide peacetime operational support to the Active Component. In **Haiti** and **Bosnia**, Reserve forces have answered the call. With sufficient planning, the Commander, Marine Forces Reserve can use Reserve unit training time to both enhance operational readiness and reduce the strain of the operational tempo on the active forces. Such peacetime support by entire units is limited, both by funding constraints and the employment obligations of unit members. The greatest impediment to expanded use of individual Reservists to augment active forces is a lack of funding.

The Total Force Concept includes a requirement for over 2,300 retired Marines, preassigned to mobilization billets throughout CONUS bases and stations. The capability to call upon a mobilization population of 25,000 retired Marines is included in all pre-mobilization and contingency planning. Retired Marines continue to be an integral part of our Total Force and play a vital role in our mobilization and contingency plans. Their experience and skills are too valuable to ignore. All parts of our Total Force – Regular, Reserve, and Retired – work together to provide the essential cohesion and combat readiness of our Corps.

Our 18,000 "civilian Marines" are a crucial component of the Total Force. The Corps has the leanest civilian population in DoD, with

each civilian employee supporting 10 Marines. Our civilian personnel are employed in a wide variety of professional, technical, trade, and administrative functions. They provide essential continuity within their functional areas. Each supporting establishment billet staffed with a civilian frees a Marine to fill a billet in a combat unit, thus enhancing training, readiness, and sustainability.

Marine Corps Position

We will continue to be a Total Force of Active, Reserve, Retired, and Civilian Personnel able to rapidly and effectively integrate a full range of capabilities – ours as well as those of other Services, agencies, and nations – into a unified and focused instrument of national power.



Littoral Warfare Training Complex

Discussion

The shift of Naval focus toward the littoral area that has resulted from the dramatic changes in the geo-strategic environment reflects a major change in the objectives of sea power. This change in emphasis from “blue water” to “brown water” imposes new training demands because of the different constraints. As a result, a critical need exists for a more effective and economical means of training MAGTFs in the warfighting demands of the world’s littoral environments.

The Littoral Warfare Training Complex (LWTC), located at Camp Lejeune, North Carolina, will provide training for Marine expeditionary forces by simulating contingencies in low- to mid-intensity conflicts and operations other than war (OOTW). This will be achieved by instrumenting and linking existing collocated facilities (e.g., training ranges, developmental systems, and training spaces) among currently established training sites. The linking of existing resources will be achieved by the use of emerging technologies such as the Distributed Interactive Simulation (DIS) and Advanced Distributed Simulation (ADS) systems. This connectivity will allow real-time interaction between live, constructive (wargaming), and virtual (embedded trainers) simulations. Finally, instrumentation systems will collect and record training data for after-action review and assessment. The LWTC will enable a better prepared force to meet the operational challenges of the coastal regions of the world.

Marine Corps Position

The naval vision of **Forward...From the Sea** mandates linking naval expeditionary warfare with joint warfare, and training as a cohesive total joint force entity. The Littoral Warfare Training Complex will significantly improve the Marine Corps capability to participate and effectively perform in joint force littoral operations, to include the designation as “Commander, Joint Task Force.”

Commandant's Warfighting Laboratory

Discussion

The Commandant's Warfighting Lab (CWL), established in October 1995 at Quantico, Virginia, is responsible for developing and field testing future operational and technological concepts to guide the Marine Corps into the next century. The organizational thrust is to provide an institutional mechanism for continuously generating new ideas for warfighting capabilities.

Sea Dragon is the Marine Corps' name for the CWL's open process of exploitation and development of operational concepts. It derives from an oriental metaphor for successfully adapting to dynamic change. Sea Dragon is a system of concepts that seeks to build on existing strengths of the Navy/Marine Corps team – merging Fleet and Fleet Marine Forces within a joint warfighting framework – to exploit innovative, competitive advantages in future combat. As a point of departure, Sea Dragon has established core areas to provide an initial framework for development. These functional areas cover: Command and Coordination; Sustainment; Fires and Targeting; Training, Education, and Manpower; Mobility and Maneuver; Biological/Chemical Weapons; Survivability; and, Non-Lethal Weapons. Sea Dragon will provide continued relevance as the pace and scope of technology increase.

These groupings enable synergistic interface and coordination with similar warfighting organizations within DoD, higher educational institutions, and private industry.

The Special Purpose Marine Air-Ground Task Force (Experimental) (SPMAGTF(X)) will be the first test bed organization. The Command Element of this unit has been activated at Quantico. It will move to Marine Corps Base, Twentynine Palms, California, in mid-1996 where it will participate in the congressionally mandated "Digitization of the Battlefield" Advanced Warfighting Experiment along with U.S. Army units at the National Training Center, Fort Irwin, California.

One of the greatest assets of the CWL is the relationship that exists through contact with Marine Corps Liaison Officers at each of the U.S. Army Battle Labs and other similar defense research and development organizations.

Marine Corps Position

The Marine Corps will aggressively seek and experiment with enhanced capabilities and concepts that will provide continued relevance in the battlespace of the future. The CWL will ensure that the Corps' investment in emerging technologies will extend throughout the Marine Corps organization, doctrine, and tactics and into the Nation's foreign and security policies.

Joint Task Force Headquarters

Discussion

The new emphasis on jointness requires combatant commanders to base plans on capabilities that require the integration of the unique skills and abilities of each Service. The focus of this integration for most combatant commanders takes place at the Joint Task Force Headquarters (JTF HQ). With few exceptions, JTF HQs are ad hoc organizations established for a specific mission to manage and control assigned forces. The temporary nature of JTF HQs has fostered confusion during stand-up and inhibited progress in the conduct of joint operations.

The Marine Corps has experienced successes in providing core capabilities for a JTF HQ for operations in Somalia and Guantanamo Bay, Cuba. In both cases, the headquarters was manned and equipped using MEF assets with augmentation from the joint community and other Service components. Though operationally successful, these JTF HQs were also ad hoc organizations, and the tasking was in addition to other MEF mission requirements.

Recognizing the need for improved continuity to effectively integrate Service capabilities, the Commandant of the Marine Corps directed the establishment of a standing, JTF HQ capability. This JTF HQ will exploit the expeditionary character and combined arms experience of the Marine Corps for rapid deployment by multiple means. It will be organized, trained, and equipped to respond to crises ranging from forward presence to conflict resolution, with the ability to act as a bridge for subsequent operations.

In establishing the JTF HQ capability, the Marine Corps is working closely with the combatant commanders to coordinate training and to ensure the needs of those commanders are met. The initial focus will be on satisfying the JTF HQ requirements of CINCUSACOM. Beyond the initial steps, this Marine Corps-wide effort will contribute to joint capabilities without detracting from the Corps' overall warfighting capabilities.

Marine Corps Position

The Marine Corps will provide a fully capable, expeditionary, JTF HQ organized and equipped to move at a moment's notice to effectively meet a spectrum of contingencies. The objective is to provide a headquarters of choice for the National Command Authorities and the Unified Commanders-in-Chief to respond to emerging crises anywhere in the world's littorals.

Chemical/Biological Incident Response Force

Discussion

The 1995 subway incident in Tokyo, the confirmation of Iraqi possession of biological weapons, and the breakdown of controls on weapons of mass destruction in the former Soviet Union all indicate that the threat of biological or chemical terrorism has significantly increased. The effects of terrorist use of biological or chemical agents are potentially catastrophic, thus DoD efforts have focused on preventing such an incident. If a chemical or biological incident were to occur, limited national capabilities exist to respond to such an event and to adequately manage the consequences.

The Commandant of the Marine Corps publicly recognized this issue and directed that a Marine Corps Chemical/Biological Incident Response Force (C/BIRF) be formed, manned, trained, and equipped to counter the potential biological/chemical terrorist threat.

The objective of the C/BIRF is to respond to chemical or biological incidents affecting DON installations and assets worldwide and to help the on-scene commander manage post-incident consequences. The unit will provide the following support: coordination of agent detection capabilities; decontamination, security, and isolation; contaminated area operations to include medical collection, evacuation, emergency treatment, and limited lab support; service support expertise to include transportation, emergency shelter, and supply and engineering support; and, advisory support via sophisticated electronic links back to labs and expert advisors.

This last area of professional support involves a special group of renowned civilian experts in areas related to potential incidents. They give the C/BIRF the capability to reach back electronically to obtain the benefit of remote expertise.

When not deploying, training, or exercising, unit members will provide training for other personnel within the DON in meeting biological or chemical emergencies. The C/BIRF fills a capability gap within the DON and may offer a model for developing similar capabilities elsewhere.

Marine Corps Position

Within the DoD the ability to respond effectively to a chemical or biological incident is limited. The Marine Corps will contribute to the national response capability by creating a force specifically designed to provide rapid support and assistance to manage consequences in the aftermath of such an incident.

Modeling and Simulation

Discussion

In recent years, major technological strides have been made in the M&S area. The Marine Corps is pursuing simulations, simulators, and advanced training devices and technologies to increase our Total Force operational and training effectiveness. The Littoral Warfare Training Center (LWTC) at Camp Lejeune, North Carolina, in the early stages of development, is a prime example of what will be a world class M&S capability for the MAGTF and JTF commanders to support unit training and exercises.

The Marine Corps M&S Master Plan provides the direction for future implementation of M&S. The M&S Investment Strategy has surveyed the critical technologies and assessed priorities and timeframes.

The Marine Corps is an active participant in Joint Staff and Office of the Secretary of Defense (OSD) development and implementation of M&S technologies.

The Marine Corps is benefiting directly from the Advanced Research Projects Agency (ARPA) M&S technology developments currently underway at the Marine Corps Air-Ground Combat Center (MCAGCC) in Twentynine Palms, California. The “Leathernet” project is providing emerging technologies to the warfighter with the goal of offering innovation based on warfighters’ requirements. The “Leathernet” is developing cutting-edge proof of concept for computer generated synthetic forces, high fidelity digital terrain data, and a human-to-computer interface that facilitates a virtual environment. This is integral to making the computer environment feel real.

The Marine Corps “Emerald” series of M&S demonstrations (for instrumentation, distributed learning, networking, prototyping, and analytical model development) are designed to provide viable, emerging technologies. These real-time demonstrations are intended to provide the warfighter with a “hands-on” sampling of the capabilities being developed and to better merge requirements with possible solutions.

Marine Corps Position

The Marine Corps is transitioning training, operations, acquisitions, and decision support technologies toward a future, interoperable, joint M&S environment. Implementation will require major investment decisions. Our confidence to invest will be ensured by the continued efforts of the Defense Modeling and Simulation Office (DMSO) to coordinate jointly developed M&S technologies throughout DoD, industry, academia, and with our allies.

Science and Technology

Discussion

The Marine Corps maintains a robust but focused Science and Technology (S&T) Program to explore the entire spectrum of technologies that provide and enhance speed, protection, tactical mobility, and lethality. An objective of the S&T program is to harness the technology needed to provide the Fleet Marine Forces with the capabilities to perform those specified and implied missions assigned by law. The end product can then be successfully fielded to meet the requirements of the Concept Based Requirements System/Combat Development Process.

A landmark achievement was recently realized in the organization and implementation of the first Marine Corps Expeditionary Warfare Science and Technology Roundtable. This innovative exercise brought together, for the first time, representatives from organizations that are vital to the development of a viable S&T strategy. Work is in progress to layout Marine Corps capabilities and functions so that technology could be mapped to them to determine sufficiency of investment. All of this was done in concert within discrete time frames suggested by various Mission Area Analyses.

The Marine Corps S&T program is composed of two Program Elements. The Exploratory Development (6.2) program includes all efforts short of formal development programs. These are directed toward the solution of specific military problems. Their objectives are to demonstrate feasibility, develop new technology needed for future systems, and enable improvements of existing systems to meet known and projected threats for the next decade. The Advanced Development (6.3) effort (the vital transition from the products of research to useful application) helps define operational requirements, reduces risk, identifies options/costs/worth, achieves user developer consensus, defines operational utility, eliminates front end hype/end game disillusionment, and smoothes the Milestone I decision.

The S&T program is organized around the following five warfighting imperatives of maneuver, firepower, command and control, combat service support, and training and education.

Marine Corps Position

The Marine Corps will continue to conduct the S&T Roundtable or other suitable processes to validate required capabilities and functions, identify technologies, integrate program feedback from OPNAV and ONR, and leverage on-going programs in other Services and agencies. This will allow the Corps to apply scarce resources to those mission areas not being adequately supported by other Services' programs.





Chapter

3

Current Operations

The United States Marine Corps is a unique American military organization. Frequently a CINC's force of choice in a crisis, Marine forces are forward-deployed and often in position as a crisis is unfolding. Additionally, they stand ready to deploy needed forces or reinforce with Maritime Prepositioning Forces (MPFs) quickly, effectively, and with sufficient flexibility to deal with diverse and sometimes multiple situations. In addition to the quick response capabilities of our forward-deployed Marine Expeditionary Units (MEUs) and MPFs, sea-based MEUs have the ability to operate without access to land bases providing a high degree of selectivity as to when, where, and what force could be employed. This tremendous political and military capability is not offered by other United States military Services. With the continued emphasis on joint and combined operations, the Navy/Marine Corps team will play an increasingly vital role in our Nation's security and crisis-response capability.



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Operations

In 1995 the Navy/Marine Corps team continued to demonstrate its flexibility and dynamic capabilities responding to crises around the globe. Whether it was humanitarian relief operations after the Kobe earthquake, assisting in the establishment of democracy in Haiti, crisis response in the Persian Gulf, strike operations over Bosnia, or forward presence, the Navy/Marine Corps team proved time and again its relevance in the post-cold war world. Our unique expeditionary character and ability to be first on the scene established the Navy/Marine Corps team as the force of choice by the U.S. theater commanders.

This was never more evident than on 2 June 1995, when U.S. Air Force Captain Scott O'Grady was shot down over Bosnia. The 24th MEU(SOC) aboard the USS Kearsarge ARG was positioned in the Adriatic Sea and quickly placed on alert. The MEU(SOC) put its forces on a 1-hour alert which was reduced to 30 minutes on 4 June. In the early hours of 8 June (0200), the MEU(SOC) received word that Captain O'Grady had been contacted. At 0300 CINCUSNAVEUR ordered the MEU(SOC) commander to be ready to launch. At 0439 the order to execute was given and the MEU(SOC) launched its recovery force at 0500. At 0730 all aircraft and personnel, to include Captain O'Grady, were recovered and aboard the Kearsarge.

The O'Grady rescue and other operations around the globe throughout 1995 illustrate how U.S. theater commanders continue to turn to Naval expeditionary forces to meet their forward presence and crisis-response requirements to protect U.S. citizens and interests worldwide.

Exercises

Participation in realistic, worldwide exercises – whether Service, Joint, or Combined – is vital to ensuring the Marine Corps maintains a ready, relevant, and capable force. Service exercises, such as Combined Arms Exercises (CAX), develop and test individual and collective training and operational skills. Through Joint and Combined exercises, such as **Native Fury** (Kuwait) and **Cobra Gold** (Thailand), the Marine Corps improves upon its ability to rapidly project forces globally, providing trained, interoperable forces to the Combatant Commanders.

During FY95, Marines participated in 297 Service, Joint, and Combined exercises. These exercises are categorized as live fire, field training, command post, or computer assisted and vary in size from small unit to Marine Expeditionary Force (MEF). These exercises enhanced our responsiveness and interoperability. They also provide a mechanism for gauging operational readiness and ensuring responsiveness to the theater commanders.

| Operation | Dates | Description | Organization | Location |
|---|------------------|---|---|--|
| Sharp Guard | Jun 92-TBD | Maritime interception operations enforcing UN sanctions against Serbia and Montenegro. MEU(SOC) units provide tactical recovery of aircraft and personnel (TRAP)/ combat search and rescue (CSAR) | II MEF MEU(SOC) units | Adriatic Sea |
| Southern Watch | Aug 92-TBD | Air support enforcing the Southern Iraqi no-fly zone (Contributing units participating in CV integration program) | 2d and 3d MAW F/A-18C and EA-6B Sqdns aboard CVs | Iraq |
| Provide Promise | Jan 93-TBD | UN Protection Forces (UNPROFOR) support and UN assistance in conducting humanitarian operations; participating units provide TRAP/CSAR | JTF HQ STAFF, II MEF MEU(SOC) units | Zagreb, Croatia and Adriatic Sea |
| Deny Flight | Apr 93-TBD | Supporting/enforcing UN no-fly zone over Bosnia and providing air support for UNPROFOR | 2d MAW F/A-18D/ EA-6B Squadrons | Aviano AB, Italy (Flights over Bosnia) |
| Sea Signal | May 94-TBD | Guantanamo (GITMO) migrant processing, handling, and security support | II MEF units | Guantanamo, Cuba |
| Maintain Democracy/ UN Mission In Haiti (UNMIH) | Sep 94-TBD | Establishment and maintenance of democracy in Haiti. Reinstatement of President Aristide | II MEF units, linguists | Haiti |
| Kobe Earthquake | Jan 95 | Delivery of relief supplies and engineering support for disaster relief operations | III MEF C-130 and engineer support | Kobe, Japan |
| Safe Passage | Jan-Feb 95 | Security support for the transfer of Cuban migrants from Panama holding areas to GITMO | II MEF Engineer Det, Fleet Anti-Terrorist Support Team (FAST) Plt | Caribbean Sea |
| United Shield | Jan-Mar 95 | Execute the withdrawal of UN Operations Somalia (UNOSOM) forces from Somalia | I/III MEF units, 13TH MEU(SOC) | Mogadishu, Somalia |
| JTF Full Accounting | Mar-Apr 95 | Support on-going national efforts for the accounting of POWs/MIAs from the Vietnam War | 1st MAW Heli Dets | Thailand |
| O'Grady Rescue | 8 Jun 1995 | 24th MEU(SOC) conducted a TRAP mission to rescue downed USAF Pilot Captain Scott O'Grady | 24th MEU(SOC) from II MEF | Bosnia |
| Deliberate Force | Aug-Sep 95 | Air support enforcing UN resolutions declaring 12.5 mile heavy weapons exclusion zones around safe-havens | 2d MAW, F/A-18D/C Sqdns, EA-6B Sqdns from Aviano, Italy and CVBGs | Aviano AB, Italy and CV Sqdns from Adriatic (Flew strikes into Bosnia) |
| Vigilant Sentinel | Aug 95-TBD | Deployment in support of CENTCOM deterrence of Iraqi aggression | I MEF Offload Preparation Party (OPP) | Persian Gulf |
| Fairwinds | Nov 95 to May 96 | Providing security for Navy Mobile Construction Bn (NMCB) and USAF engineer unit, work site, camp site, and convoys | FAST Plt, MCSF Bn | Haiti |
| Joint Endeavor | Dec 95-TBD | Theater reserve for USCINCEUR and SACEUR in support of NATO operations to implement the military tasks of the Dayton Peace Accords | 26th MEU(SOC) from II MEF | Adriatic Sea and Bosnia |

Counterdrug Operations

The Marine Corps was actively engaged in providing assistance to the Nation's "counterdrug effort" during 1995. Marines participated in 74 counterdrug (CD) missions along the U.S. Southwest border in support of Joint Task Force Six (JTF-6). Of these, 57 percent were completed by Marine Reservists from the Fourth Division/Wing Team. Individual Marines and units assigned to these CD missions perform a supporting role to both local and Federal law enforcement agencies that are responsible for making apprehensions and/or arrests of suspected traffickers.

Typical Marine support missions have included: listening and observation posts, small construction engineer projects, diver hull inspections, vehicle cargo inspections, linguist support, intelligence analysis support, ground-based radar support, and aviation support.

The Marine Corps continues to be proactive in supporting the efforts of the Commander-in-Chief, U.S. Southern Command (USCINCSOUTH) to deny illegal drug trafficking into the U.S. by stopping exportation from sources in Latin America. The Marine Corps provides Mobile Training Teams (MTTs), Extended Training Service Specialists (ETSSs), and Deployments for Training (DFTs) to assist in the training of host nation military organizations and law enforcement agencies that have a counterdrug mission. During 1995, a Marine Corps MTT conducted training for the Colombian National Police (CNP) Anti-narcotics Division. Training included insertion and extraction techniques and weapons qualification. Additionally, riverine training was conducted for the Venezuelan Marine Corps and the Guyanese Defense Force.

Military Support to Civil Authority

Increasingly, DoD is called upon to support civil authorities during periods of domestic emergency. Such assistance is an important and highly visible role for Marine Corps involvement in military operations other than war (MOOTW). Use of the Marine Corps to support civil authorities provides an opportunity to highlight the mobility and capability of Marines to rapidly respond to the Nation's needs and crises.



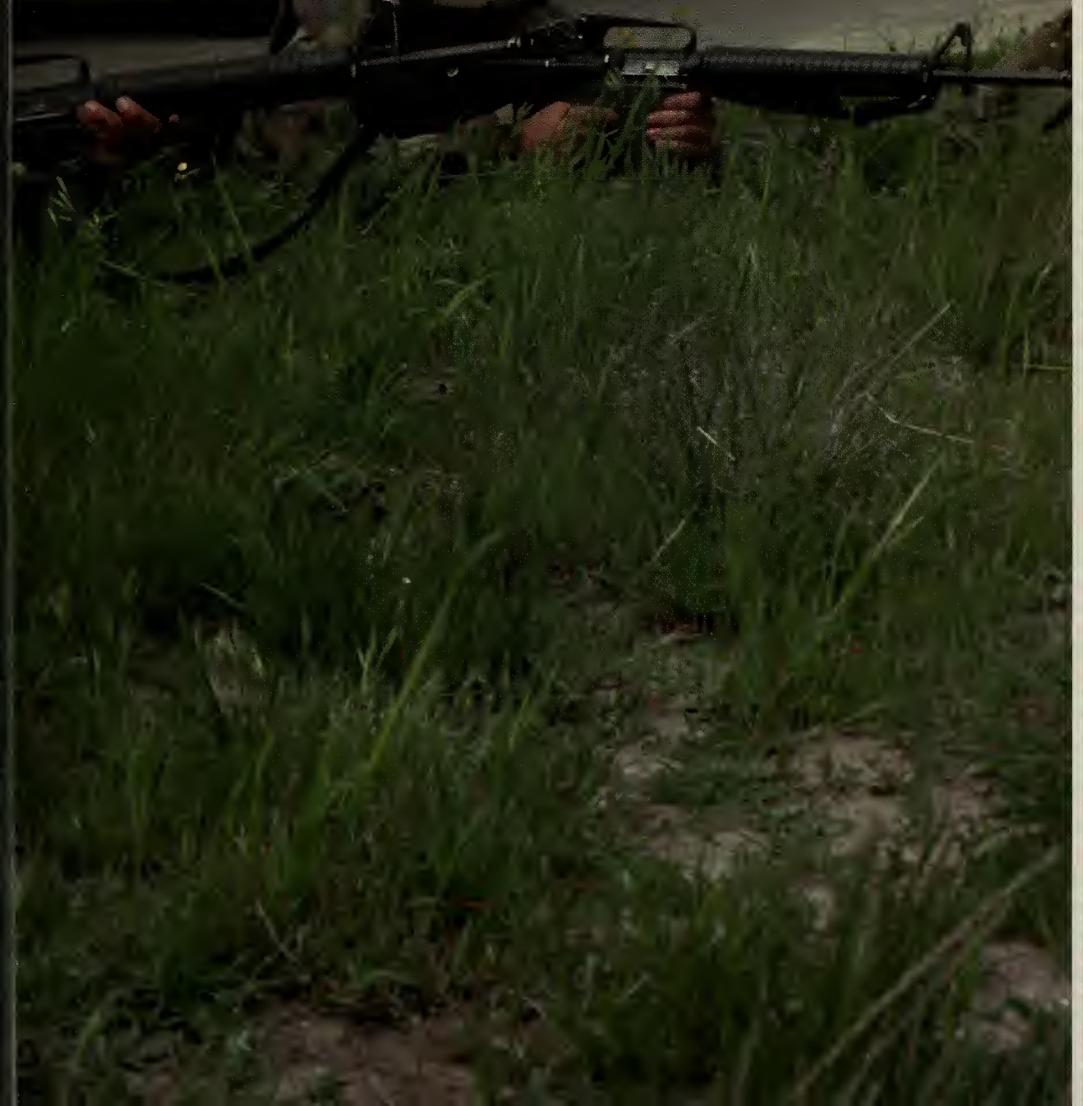
Chapter

4

Major Acquisition Programs

This Chapter provides background information regarding key programs being pursued by the Marine Corps, or acquired by the Navy, to permit execution of the Forward...From the Sea naval warfare concept. These programs aggressively exploit technological advancements in order to improve readiness; enhance intelligence and information processing; increase the speed, mobility, and supporting firepower of expeditionary forces; and significantly minimize potential casualties during future operations. This Chapter is divided into four parts that correspond to each element of the MAGTF and a final part that addresses general MAGTF support programs.



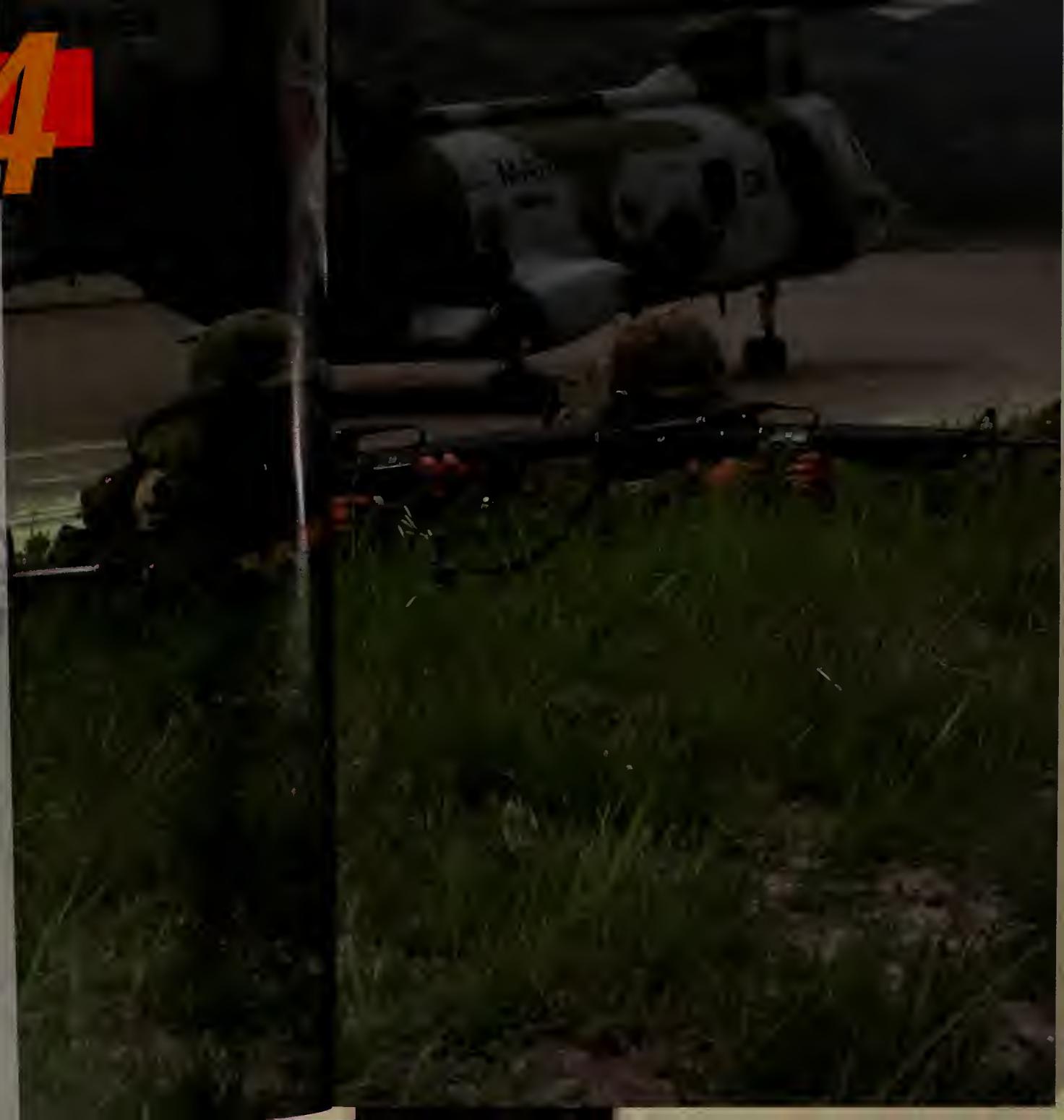


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Command Element Programs

This Section provides a basic description of the Marine Corps C4I programs/systems under development that will be fielded during FY96 and FY97. The system descriptions are organized according to the primary command and control (C2) functional area that they support:

- **Maneuver.** Maneuver systems function to pull and fuse information from the other C2 functional areas. They provide the commander an integrated representation of the battlespace or area of concern.
- **Intelligence.** Intelligence systems support the timely planning, collection, processing, production, and dissemination of all-source intelligence. In addition, these systems support the effective employment of reconnaissance, surveillance, and target acquisition resources.
- **Air Operations.** Air operation systems are used to coordinate and plan Navy and Marine Corps air combat operations and interface with joint and combined forces air operations systems. These systems also interface directly with the fire support systems.
- **Fire Support.** Fire support systems integrate the artillery and air support within the MAGTF and naval gunfire for joint and combined fire support.
- **Combat Service Support.** Combat service support systems ensure effective administrative and logistics planning and operations. This includes manpower management and all logistics functions that support deployment, employment, and reconstitution of forces.
- **Command and Control Warfare.** Command and Control Warfare systems coordinate C2 and protection actions in support of C2 warfare operations.

MAGTF C4I

The MAGTF C4I systems concept originated in 1993, to accelerate and unify the development, procurement, and fielding of command and control support systems for the FMF. The emergence of the Joint Maritime Command Information System Unified Build (JMCIS UB) helped develop automated command and control support systems and tools, common across command and control functional areas.

In 1993, Marine Corps Systems Command demonstrated a single software program supporting several functional areas at the Strategic-Tactical Data Network Four demonstration. Using the then-emerging open systems standards, the Marine Corps exchanged information among operations, intelligence, and fire support workstations and Navy Joint Operational-Tactical System workstations.

In 1994, the Tactical Combat Operations (TCO) program adopted a development and acquisition strategy relying on software development in conjunction with the Navy. The resulting software met the needs of both Services for support of command and control.

In 1995, early fieldings of the TCO system supported Marine Expeditionary Unit Deployments. Additionally, the Marine Corps Tactical System Support Activity (MCTSSA) reengineered the software of the Intelligence Analysis System and the Improved Direct Air Support Center, as well as TCO, so that they would operate on the Joint Maritime Command Information System Unified Build. MCTSSA also consolidated the functions not assigned to the Unified Build into a limited number of software modules, for use by any of the system users.

MARCORSYSCOM is scheduled to test and field the software in 1996.

Global Command and Control System (GCCS)

DESCRIPTION

GCCS is an evolving, flexible, and interoperable joint C4I system that is dedicated to supporting the warfighter. It encompasses the policies, procedures, personnel, automated information processing systems, common communications paths, and common switches necessary to plan, deploy, sustain, and employ forces. GCCS implements a flexible, highly adaptable client server architecture, tailored specifically to the needs of the warfighter. While GCCS will begin replacing portions of the World-Wide Military Command and Control System (WWMCCS) network, it promises more capability within the command and control arena for moving information vertically and horizontally. Ultimately, it will connect joint and upper echelon service systems down to the battalion level. GCCS and MAGTF C4I must be compatible.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|---------------------------------|-------------|-------------|
| Quantity: (Application/Servers) | 102 | 0 |

OPERATIONAL IMPACT

GCCS will provide joint operational planning and execution capabilities for and will facilitate the deployment and redeployment of Marine Corps forces.

PROGRAM STATUS

GCCS is a joint program with the Defense Information Systems Agency (DISA) as the lead agency. The Marine Corps has procured an initial quantity of 63 SUN/SPARC 20 application servers for fielding to 30 Marine Corps Initial Operational Capability (IOC) sites. Procurement of equipment to support additional Marine Corps GCCS sites and to ensure a deployable GCCS capability will be completed during 4th Quarter FY96.

DEVELOPER/MANUFACTURER

Software - DISA

Hardware - Commercial-off-the-Shelf (COTS)

MANEUVER

Tactical Combat Operations (TCO) System

DESCRIPTION

The TCO system will provide MAGTF commanders an on site automated capability to process battlefield information. Marines will soon share the same automated operations system currently in use by the Navy and the Coast Guard. The Joint Operational Tactical System, Unified Build (JOTS UB) forms the core software of the Joint Maritime Command Information System (JMCIS). The Naval Tactical Command System-Afloat (NTCS-A), the shore-based Operations Support System, and the Marine TCO system are all built around the same Joint Maritime Command Information System, Unified Build (JMCIS UB) core software with the JOTS II application. For the past ten years, JOTS has evolved to provide greater capability to commanders afloat by displaying air, ground, and maritime tracks worldwide. Digital maps available from the Defense Mapping Agency on CD-ROM disks can be loaded and displayed on JOTS UB.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------|------|------|
| Quantity: | 187 | 233 |

OPERATIONAL IMPACT

The system will link the operations sections of all FMF units of battalion/squadron size and larger. Marine forces embarked aboard Navy ships will "plug in" to the Naval Tactical Command System-Afloat. When ashore, MAGTF C4I will allow interoperability with joint forces over internal and external communications.

PROGRAM STATUS

Operational testing of the Marine TCO system occurred in June 1995. Marine Expeditionary Force (MEF) and Marine Expeditionary Unit (MEU) headquarters elements currently have an interim capability using testbed computers and software. IOC will be achieved during 3rd Quarter FY96, with Full Operational Capability (FOC) by the end of FY98.

DEVELOPER/MANUFACTURER

Naval In-Service
Engineering Activity (NISE), East
Detachment; St. Inigues, MD



Tactical Data Network (TDN) System

DESCRIPTION

The TDN consists of a network of interconnected Gateways and Servers. These systems and their subscribers are connected by a combination of common user long-haul transmission systems, local area networks (LANs), single channel radios, and the switched telephone system. This network provides basic data transfer and switching services; access to strategic, supporting establishment, joint, and other service component tactical data networks. Network management capabilities and value-added services such as message handling, directory services, file sharing, facsimile handling, and terminal emulation support are also available. The TDN Gateway will be deployed at the MEF and Major Subordinate Command level and will provide access to the Nonsecure Internet Protocol Router Network (NIPRNET), Secret Internet Protocol Router Network (SIPRNET), and other Services' tactical packet switched networks. It will be in a HMMWV mounted shelter for mobility. The TDN Server will be deployed to the battalion level. It will be in four transit cases and will be man-portable. The TDN will give Marine Corps tactical users the ability to transition from AUTODIN to its mandated replacement system, known as the Defense Message System (DMS).

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------|------|------|
| Quantity: (Gateways) | 0 | 0 |
| (Servers) | 0 | 0 |

OPERATIONAL IMPACT

The TDN augments existing MAGTF Communications Infrastructure to provide the Commander an integrated data network. Together they form the communication backbone for MAGTF Tactical Data Systems.

PROGRAM STATUS

The program is currently in the Engineering and Manufacturing Development (EMD) phase of Research & Development. Milestone 0 was approved 11 July 1994 and Milestone I/II was approved 17 March 1995.

DEVELOPER/MANUFACTURER

Prototypes - Tobyhanna Army Depot; Tobyhanna, PA
Production - TBD

AN/PSC-5 Enhanced Manpack UHF Terminal (EMUT)

DESCRIPTION

The AN/PSC-5 EMUT is a lightweight, manpack, Line-of-Sight (LOS) and Tactical Satellite Communications (SATCOM) terminal that will provide embedded Communications Security (COMSEC) and 5kHz and 25kHz Demand Assigned Multiple Access (DAMA) capabilities. The AN/PSC-5 provides long-range, two-way communications via satellite and LOS mode in the 225 to 400 MHz frequency range. The terminal will operate in the 5kHz and 25kHz UHF TDMA/DAMA modes providing both voice and message data capabilities. It employs a low-gain, omni-directional antenna for LOS communications and a medium- or high-gain directional antenna for satellite communications.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|-----------------------------|-------------|-------------|
| Quantity: | 450 | 115 |

OPERATIONAL IMPACT

The AN/PSC-5 will serve as a primary command and control Single Channel Radio (SCR) for MAGTFs and their elements. Ultimately, it will be employed down to the battalion and reconnaissance team level, allowing increased ranges and reliability for inter/intra-MAGTF as well as theater connectivity. The terminals will be used by elements to transmit intelligence traffic, to interface with and retransmit Single Channel Ground and Airborne Radio System (SINCGARS) communications, and to receive command and control traffic.

PROGRAM STATUS

This is a joint program with the Army as the lead service. The Marine Corps has procured an initial quantity of 80 terminals to test Marine Corps-unique operational requirements. Delivery of the initial 80 units is scheduled for August 1997. IOC is scheduled for 3rd Quarter FY96.

DEVELOPER/ MANUFACTURER

Magnavox;
Richardson, TX



Ground Mobile Forces (GMF) Tri-Band Tactical Satellite Terminal

DESCRIPTION

The GMF Tri-band satellite terminal program is a COTS/NDI integration effort that will combine commercially available satellite equipment onto a pallet. The pallet will then be mounted on an M-1097 High Mobility, Multipurpose Wheeled Vehicle (HMMWV). It will provide an increased channel capacity over the Defense Satellite Communications System (DSCS), and it will provide the additional capability of communicating over C and Ku bands on commercial satellites.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|-----------------------------|-------------|-------------|
| Quantity: | 0 | 0 |

OPERATIONAL IMPACT

The GMF Tri-band program will provide the Marine Forces self-contained, rapidly deployable, satellite terminals capable of communicating over the existing DSCS and commercial satellites. The GMF Tri-band satellite terminals will be compatible with the existing GMF terminals as well as the DTC, TDN, and other TRI-TAC systems. The GMF Tri-band satellite terminal program will initially augment and then replace the current GMF satellite terminals. It also offers the ability to use civilian satellites to ease the congestion on military systems.

PROGRAM STATUS

This is a multi-service program with the Army as the lead service. The Marine Corps will join the Army, USSOCOM, and JCSE in the procurement of these systems. IOC is scheduled for 1st Quarter FY00.

DEVELOPER/ MANUFACTURER

TBD



Digital Technical Control (DTC)

DESCRIPTION

The DTC facilitates the installation, operation, restoration, and management of digital trunk groups consisting of many multiplexed circuits and individual circuits. It provides the primary interface between subscriber systems and LANs with long-haul multichannel transmission systems to transport voice, message, data, and imagery traffic. It can add, drop, and insert digital circuits into multiplexed groups; provide a source of stable timing to connected equipment; condition circuits; and perform analog/digital, 2-wire/4-wire, and signaling conversions. It contains the monitoring, testing, and patching equipment required by technical controllers to troubleshoot and restore faulty circuits and links.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------|------|------|
| Quantity: | 0 | 0 |

OPERATIONAL IMPACT

The DTC will act as a central management facility terminating most communication links and individual circuits for major commands and will allow the MAGTF commander to install, operate, and maintain the supporting C4I system. The DTC, along with the Unit Level Circuit Switch, Tactical Data Network, Tactical Communications Central, and various multichannel radios, will form the backbone of the Marine Corps digital communication network. The DTC will integrate the communications assets of a node into an efficient system that provides the commander seamless communications while making efficient use of limited bandwidth and equipment.

PROGRAM STATUS

The program is in the EMD phase. Milestone I/II occurred on 17 March 1995.

DEVELOPER/ MANUFACTURER

EMD -

Tobyhanna Army
Depot; Tobyhanna, PA

Production -

TBD



INTELLIGENCE

Intelligence Analysis System (IAS)

DESCRIPTION

IAS is the MAGTF echelon-tailored, all-source intelligence fusion center that is the hub of the Marine Air-Ground Intelligence System (MAGIS). MEF IAS is a sheltered, mobile system with multiple analyst workstations in a client-server LAN configuration. IAS suites for intermediate commands are configured in a four-workstation LAN. Single IAS workstations are planned for battalions and squadrons.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------|------|----------|
| Quantity: | 0 | 3 Suites |

OPERATIONAL IMPACT

IAS hosts the Secondary Imagery Dissemination System (SIDS) and has provisions for communication links with other intelligence agencies and systems at the national (DoD Intelligence Information Systems (DoDIIS)), theater, and tactical (including TCAC, TERPES, and JSIPS) levels.

PROGRAM STATUS

The commercial IAS Suite IOC was completed in 1992 with FOC completed in 1993. The follow-on IAS Suite IOC is scheduled for 2nd Quarter FY97, and FOC is scheduled for 2nd Quarter FY99. MEF IAS is scheduled for Operational Testing in 1996, IOC in 1997, and FOC in 1999.

DEVELOPER/ MANUFACTURER

MEF IAS -
VITRO Corporation;
Oxnard, CA

IAS Suite - Naval
Surface Warfare Center;
Crane, IN

IAS Workstation -
TBD



MAGTF Secondary Imagery Dissemination System (SIDS)

DESCRIPTION

The Manpack SIDS device provides the capability to electronically collect, transmit, and receive imagery products throughout the MAGTF, as well as to adjacent, higher, and external commands. It uses available communications paths. MAGTF Manpack SIDS will fully comply with the National Imagery Transmission Format (NITF) Version 2.0 and the Tactical Communications Protocol (TACO II).

| PROCUREMENT PROFILE: | FY96 | FY97 |
|--------------------------|------|------|
| Quantity: (Manpack SIDS) | 10 | 31 |

OPERATIONAL IMPACT

MAGTF SIDS will be procured in two configurations. One configuration is the Intelligence Analysis System (IAS) hosted SIDS. The other is the Manpack SIDS. They will be distributed throughout the MAGTF and will comprise the foundation of the SIDS network. Both allow the user to display, manipulate, annotate, print, transmit, and receive images on a multipurpose intelligence workstation.

PROGRAM STATUS

The IAS hosted SIDS is presently operating on commercial IAS Suites within the seven MEUs. Selection of the image-quality scanners and printers is complete. Manpack SIDS initial production decision of ten systems is scheduled for FY96. The follow-on production decision and the IOC are scheduled for FY97, with the FOC in FY98.

DEVELOPER/MANUFACTURER

IAS hosted software - Paragon, Inc.

Manpack SIDS hardware: Marine Corps Common Hardware



Joint Tactical Information Distribution System (JTIDS)

DESCRIPTION

JTIDS is an advanced radio system that provides secure, jam resistant information distribution, position location, and identification capabilities in an integrated form for tactical military operations. It is a time division multiple access (TDMA), spread spectrum, frequency hopping, digital (data and voice), crypto secure, high data rate communication system. It is a joint program managed by the JTIDS Joint Program Office (JPO).

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------------|------|------|
| Quantity: (JTIDS Terminal) | 10 | 5 |

OPERATIONAL IMPACT

The Marine Air Command and Control System (MACCS) requires a JTIDS capability for interoperability and to perform its mission in a joint environment. This capability will be provided to the host system via use of a JTIDS Class 2 Terminal separately housed within the AN/TYQ-JTIDS, a lightweight multipurpose shelter that contains associated equipment, antennas, and cryptographic equipment required to support the JTIDS Terminal located apart from the host.

PROGRAM STATUS

The Marine Corps procured five full-scale development (FSD) models of the thousand watt receiver/transmitters (Model Class 2H Terminals) for TAOM/ATACC platform integration/testing under Low Rate Initial Production authority (MS IIIA) of 7 September 1989. Full rate terminal production began in FY95, at which time the Marine Corps ordered 9 terminals. The JTIDS Module (JM), the prototype system for the HMMWV mounted shelter used to house the JTIDS terminals, is completing the EMD phase of the acquisition cycle. Four engineering development model JTIDS Modules have been built. They are being tested to provide proof of concept and a baseline system to support follow-on JTIDS development. Implementing a JTIDS capability in the TAOC and TACC is focused on a common solution. Development phase of JTIDS implementation began in 2nd Quarter FY96.

DEVELOPER/MANUFACTURER

JTIDS Terminal

JTIDS Terminal Management - JTIDS JPO, Electronic Systems Center(ESC); Hanscom AFB, MA

JTIDS Terminal Development - GEC-Marconi Electronic Systems Corp; Totowa, NJ and Rockwell Collins; Cedar Rapids, IA

JTIDS Module

JM Principal Development Activity - Naval Command, Control and Ocean Surveillance Center (NCCOSC) In-Service Engineering (NISE), West Coast Division

JM Construction - Sacramento Air Logistics Center (SM-ALC), McClellan AFB; Sacramento, CA

Multiplexer Development - Elydyne, Inc.; San Diego, CA



Technical Control and Analysis Center (TCAC) Product Improvement Program (PIP)

DESCRIPTION

TCAC PIP will provide the MARFOR Radio Battalions a fully capable Signals Intelligence (SIGINT) fusion center mounted on the HMMWV platform. By providing automated processing, analysis, and reporting capability, TCAC PIP will enhance the overall control and management of SIGINT assets as well as the development and dissemination of SIGINT products. To provide the MARFOR Radio Battalions the most capable, mobile, and rugged system possible, TCAC PIP capitalizes on state-of-the-art hardware and software technology and an evolutionary development strategy.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|-----------------------------|-------------|-------------|
| Quantity: | 0 | 5 |

OPERATIONAL IMPACT

Compared to the current TCAC system, TCAC PIP will greatly increase the quality and timeliness of SIGINT products provided to MAGTF commanders, while decreasing the amphibious/airlift requirements for system deployment.

PROGRAM STATUS

Prototype development began in FY91. Fielding of several prototype systems occurred in FY92 and FY93. Software development continues. Operational Test and Evaluation (OT&E) is scheduled for FY97 with IOC to follow in FY98. FOC is scheduled for FY99.

DEVELOPER/MANUFACTURER

VITRO; BTG, Inc.



AIR OPERATIONS

Advanced Tactical Air Command Central (ATACC)

DESCRIPTION

The ATACC is the interface system between the Aviation Combat Element (ACE), the MAGTF Command Element (CE), and other joint service command and control systems. ATACC will provide the integrating link between the MACCS and MAGTF C4I. It will replace the current AN/TYA-1B and AN/TYQ-3A, and will provide significant operational and logistical improvements. The ATACC program is now following an evolutionary acquisition strategy composed of three phases. Phase I ORD requirements will be satisfied through the procurement of: 1) the AN/TYQ-51, 2) the Contingency Theater Automated Planning System (CTAPS), and 3) non-rigid enclosures. The three elements of Phase I will be integrated with portions of the AN/TYA-1B to provide full Phase I capability. The capabilities required in Phase II will be satisfied in three increments: 1) a Mobile Enhanced Communications Distribution System (MECDS), 2) a common hardware, (open systems GCCS compliant) HMMWV mobile loaded automation segment, and 3) JTIDS integration. The capabilities required in Phase III will be the subject of future requirements endeavors, and will take advantage of new, evolving technology. Throughout its evolution, the ATACC will provide planners and operators with the automated assistance needed to effectively supervise, coordinate, and direct the execution and planning of all MAGTF tactical air operations.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------|------|------|
| Quantity: | 4 | 0 |

OPERATIONAL IMPACT

ATACC provides automated data exchange of tactical information through a shared database. Air Tasking Orders (ATO) are generated, validated, formatted, and then routed for transmission via CTAPS. ATACC is the senior Marine Corps agency within the MACCS and, as such, it is the focal point for the planning and execution of the Air War. It is designed to interface with all joint data systems.

PROGRAM STATUS

The Phase I Milestone III occurred in March 1994, which will result in a Phase I IOC during 4th Quarter FY96. FOC will occur at the completion of Phase II, during 4th Quarter FY00.

DEVELOPER/MANUFACTURER

Grumman Data Systems

Improved Direct Air Support Central (IDASC) Product Improvement Program (PIP)

DESCRIPTION

The focus of the IDASC PIP is the development of the High Mobility Downsized (HMD) DASC, which will replace the AN/TSQ-155 IDASC and OE-334/TRC Antenna Coupler Group presently fielded in the Marine Air Support Squadrons. The HMD DASC is an integrated system that consists of five shelterized Lightweight Multipurpose Shelter (LMS) Type-1 systems mounted on M-1097 Heavy HMMWVs. Three of these shelters comprise the operations suite (replacing the AN/TSQ-155), and two comprise the communications suite (replacing the OE-334). Each operations shelter contains five operator workstations capable of conducting integrated aviation command and control functions. Each HMD DASC vehicle tows an M-116 trailer that carries a generator and external cables. Those trailers associated with the operations vehicles will also carry one Quick Erect Shelter. The system design allows for a great deal of configuration and employment flexibility at any level of MAGTF operations, and provides the FMF with a lightweight, highly mobile, shelterized system capable of delivering flexible and responsive air support command and control.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|-----------------------------|-------------|-------------|
| Quantity: | 2 | 5 |

PROGRAM STATUS

The program is being implemented via an evolutionary acquisition strategy that consists of three phases – Phase I (IOC): Downsizing, Electromechanical Upgrades, and Automation Core; Phase II (FOC): Block upgrades; Phase III: Outyear Improvements. IOC is currently slated for 4th Quarter FY96, and FOC during 4th Quarter FY97.

DEVELOPER/MANUFACTURER

Naval Surface Warfare Center; Crane, IN



Tactical Air Operations Center (TAOC)

DESCRIPTION

The Tactical Air Operations Center (TAOC) consists of the AN/TYQ-23(V)1 TAOM, AN/TPS-59 and AN/TPS-63 radar, Joint Tactical Information Distributions System (JTIDS), and Sector Anti-Air Warfare Coordinator Facility (SAAWF). The TAOC provides the equipment and organization necessary to plan, direct, and control tactical air operations, and to perform specified airspace management tasks. The TAOC is comprised of several weapon systems that are at the different phases of their life cycle.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|-------------------------|------|------|
| Quantity: Interim SAAWF | 7 | 0 |

OPERATIONAL IMPACT

The interim SAAWF will facilitate dissemination of the tactical air picture from the TAOM to the SAAWC Battle Staff operator positions. It will also facilitate an automatic interface between CTAPS and the TAOM data base for the air tasking order. The Operator Console Replacement will replace the high failure console and will provide an ethernet interface from the OpConsole to external networks. The OpConsole effort will introduce JMCIS functionality and JMCIS type man-to-machine interface to the TAOM operator. JTIDS implementation (initial and full) will provide a robust JTIDS capability with the objective of commonality with the TACC and hardware and software commonality with the U.S. Navy TADIL-J platform (Command and Control Processor).

PROGRAM STATUS

The interim SAAWF began in November 1995. The fielding process began with units being trained at MCTSSA and a follow-on, on-site delivery and training team. The final configuration SAAWF is in the EMD phase under a joint U.S. Air Force and Marine Corps initiative. Preliminary Design was reviewed and approved during September 1995. The OpConsole Replacement was approved by the Milestone Decision Authority as an Acquisition Category IV(T) Minor Upgrade. Contract award for this 18-month effort was made during 2nd Quarter FY96. JTIDS implementation portion began EMD phase during 2nd Quarter FY96.

DEVELOPER/MANUFACTURER

Interim SAAWF
MCTSSA/Marine Corps
Common Hardware

Final SAAWF
Prototype - Space Warfare Center, CO
Production - TBD

OpConsole Repl
Initial Production - Litton Data Systems
Full Rate Production - TBD

Air Defense Communications Platform (ADCP)

DESCRIPTION

The ADCP will be capable of receiving, transmitting, processing, and distributing data link and voice information to MAGTF ground-based air defense units.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------|------|------|
| Quantity: | 0 | 1 |

OPERATIONAL IMPACT

The fielding of the ADCP will enhance the MAGTF commander's ability to effectively deploy air defense assets. The single configuration HMMWV-based system will be capable of meeting the requirements for receiving and broadcasting air picture data for Shorad cueing while providing HAWK units a capability for Tactical Ballistic Missile Defense (TBMD).

PROGRAM STATUS

Milestone I/II was completed during 2nd Quarter FY95. IOC is scheduled for 4th Quarter FY98.

DEVELOPER/MANUFACTURER

Software - Advanced Programming Concepts
Hardware and Integration - Naval Surface Warfare Center;
Crane, IN



FIRE SUPPORT

Fire Support Command and Control System (FSC2S)

DESCRIPTION

FSC2S is an interim program designed to meet the basic requirements for a fully automated system by providing initial semi-automated tactical fire support and technical artillery fire control functions for MAGTF operations. The follow-on Advanced Field Artillery Tactical Data System (AFATDS), due for fielding in FY98, will complete the transition to fully automated fire support command and control. There are two components to the FSC2S: The Fire Control System (FCS) and the Battlefield Computer Terminal (BCT).

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------|------|------|
| Quantity: | 210 | 0 |

OPERATIONAL IMPACT

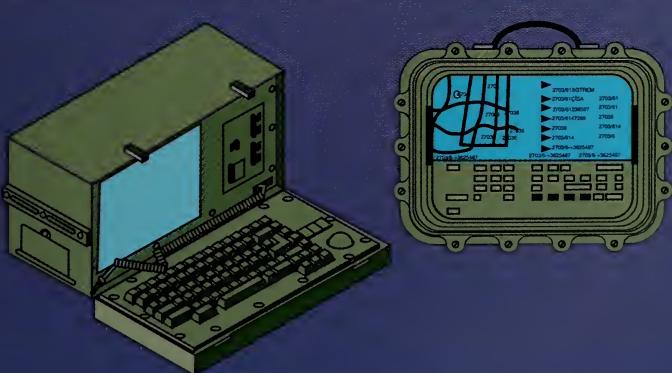
FSC2S will be employed at Fire Direction Centers down through the firing platoon/battery level, at Fire Support Coordination Centers down through the battalion level, at the Supporting Arms Coordination Center, and by the MAGTF command element to provide enhanced fire planning, tactical fire direction, and management of associated digital communications nets.

PROGRAM STATUS

FSC2S obtained a Milestone III decision in January 1994 and began fielding in October 1994.

DEVELOPER/MANUFACTURER

Software - Litton Data Systems
Hardware - SAIC



COMMUNICATIONS AND COMMUNICATIONS SUPPORT

Single Channel Ground and Airborne Radio System (SINCGARS)

DESCRIPTION

SINCGARS is a family of lightweight combat radios. As a joint program, SINCGARS will be the standard VHF-FM tactical radio for the Marine Corps, providing the backbone for the single channel radio net that will be used by all C2 and fire support systems. The system will provide high security against surveillance and jamming by using frequency hopping with integrated communications security. It is capable of voice and data transmission over the VHF-FM frequency range of 30-87.975 MHz.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------|-------|-------|
| Quantity: | 3,803 | 3,871 |

OPERATIONAL IMPACT

SINCGARS will provide the MAGTF commander with the primary means of communications to support command and control on the battlefield.

PROGRAM STATUS

IOC occurred during 4th Quarter FY94.

DEVELOPER/MANUFACTURER

ITT Aerospace/Communications Division



Ground Combat Element Programs

The Ground Combat Element (GCE) is task-organized around an infantry unit and varies in size from a reinforced battalion to one or more reinforced divisions. Its purpose is to defeat an enemy by the application of superior combat power at the decisive time and place. This is accomplished by rapid, uninterrupted maneuver ashore from amphibious ships to gain positional advantage; and by the precise, overwhelming application of firepower. The following programs will enable GCE forces to execute **OMFTS** by greatly increasing their mobility, survivability, and accurate application of fires.



MOBILITY

Advanced Amphibious Assault Vehicle (AAAV) Program

DESCRIPTION

The AAAV Program will provide the Marine Corps a weapon system fully capable of implementing ship-to-objective maneuver as an integral part of the amphibious triad (AAAV, V-22, LCAC) to execute the concept of **OMFTS**. Battlespace dominance by Marine forces will be significantly enhanced as a result of the AAAV's high water speed and superior land mobility which have historically limited the rapid maneuver of armored combat vehicles. The AAAV's unique combination of offensive firepower, armor and NBC protection, and high-speed mobility on land and sea represent major breakthroughs in the ability of naval expeditionary forces to avoid enemy strengths and exploit enemy weaknesses.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|-----------------------------|-------------|-------------|
| Quantity: | 0 | 0 |



OPERATIONAL IMPACT

The AAAV will be designed to allow immediate, high-speed maneuver of Marine infantry units as they emerge from attack positions aboard ships located beyond the visual horizon – 25 miles and beyond. Projection of these forces will be conducted as a single, seamless stroke that capitalizes on the intervening sea and land terrain to achieve surprise and rapidly exploit weak points in enemy littoral defenses.

PROGRAM STATUS

The AAAV Program has been approved by the Defense Acquisition Board (DAB), which conducted a Milestone I review on March 15, 1995 signifying the beginning of the Demonstration/Validation Phase. During FY96, one contractor will be awarded the Demonstration/Validation Phase contract. The AAAV is targeted for fielding during FY06.

DEVELOPER/MANUFACTURER

Current Phase - General Dynamics Land Systems Division and United Defense, Limited Partnership (formed by a limited partnership of the FMC Corporation and BMY).



FIREPOWER

Lightweight 155MM Howitzer (LW155)

DESCRIPTION

The LW155 howitzer will provide MAGTFs organic artillery fires. The LW155 will retain the current M198 155mm howitzer's range while providing considerably improved transportability by both air and ground systems. Capable of being transported by the future medium lift replacement aircraft, the LW155 is designed for expeditionary contingencies requiring light, highly mobile artillery.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------|------|------|
| Quantity: | 0 | 0 |

OPERATIONAL IMPACT

The LW155 will give the MAGTF commander greater operational and tactical flexibility in executing his mission. The increased mobility of the LW155 will significantly improve artillery ship-to-shore and across-the-beach movement while increasing the survivability, responsiveness, lethality, and efficiency of artillery units supporting OMFTS.

PROGRAM STATUS:

The LW155 is currently in the Concept Exploration and Definition Phase in Research and Development. Testing and selection of a single howitzer from the three current competitors for transition to the EMD phase are scheduled to occur during the 1st Quarter FY97. Contract award is scheduled to occur during the 2nd Quarter FY97. LW155 is a joint program with the Marine Corps as the lead service.

DEVELOPER/MANUFACTURER

The Marine Corps Systems Command is the lead developer and will manage the overall effort. This joint program will be executed by a Marine Program Manager, working for the Army Program Executive Officer-Field Artillery Systems, who serves as the Marine Corps Systems Command's executing agent.

Javelin

DESCRIPTION

The JAVELIN, formerly the AAWS-M, is a medium-range, man-portable, "fire-and-forget" weapon system that will replace the DRAGON antiarmor missile system in the infantry battalion. JAVELIN will satisfy an operational requirement to provide increased mobility, reliability, higher hit/kill probability, and greater effective range (2,000m+) against current and future armored threats. JAVELIN uses an infrared, fire-and-forget seeker, coupled with an advanced warhead and top down attack missile trajectory to provide its lethality. It can be fired from inside buildings and enclosures, which makes it an effective system for employment in urban terrain, as well as in more open areas.

PROCUREMENT PROFILE:

| | FY96 | FY97 |
|-------------------------------|------|------|
| Quantity: Command Launch Unit | 0 | 48 |
| Missiles | 0 | 148 |

OPERATIONAL IMPACT

The Marine Corps has a continuing urgent requirement for a man-portable, antiarmor weapon system capable of engaging and defeating the enemy armor threat. JAVELIN will replace the DRAGON medium antitank weapon system, which is ineffective against the improved conventional and explosive reactive armor on existing threat vehicles.

PROGRAM STATUS

The U.S. Army and the Marine Corps are jointly participating in the development of the JAVELIN, with the Army as lead service. Marine IOC is anticipated during FY99.

DEVELOPER/ MANUFACTURER

Texas Instruments and Lockheed Martin Joint Venture



Predator

DESCRIPTION

The PREDATOR, formerly known as SRAW, is a short-range assault missile with a fly-over, shoot-down attack profile, similar to that of the TOW-IIB. The warhead uses an explosively formed penetrator and is lethal against all current main battle tanks equipped with explosive reactive armor. A fire-and-forget, 20-pound system with a disposable launcher, PREDATOR is effective between 17 and 600 meters and has an inertially guided autopilot to increase accuracy. The inertial autopilot determines range and lead, so the gunner merely keeps the crosshairs on the turret ring of a moving tank. The flight module increases gunner survivability with its soft launch capability, which also allows the weapon to be fired from an enclosed space.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------|------|------|
| Quantity: | 0 | 0 |

OPERATIONAL IMPACT

PREDATOR is a new enhanced capability providing a light weapon that will satisfy both current and future needs for a light antiarmor weapon with lethality against Main Battle Tanks. PREDATOR is designed to complement the fielding of the JAVELIN medium antitank weapon in the antiarmor platoon of the infantry battalion. PREDATOR is the light antitank weapon in the HAW-MAW-LAW concept of employment.

PROGRAM STATUS

PREDATOR is in the early months of the EMD phase. Engineering model flights began early in FY96 and Developmental Tests (DT) and Operational Tests (OT) are scheduled to occur in FY96 and FY97. Procurement of 21,012 missiles is planned for FY98-FY03 with PREDATOR to be fielded in the infantry battalion antiarmor platoon. Although it is a unilateral Marine Corps ACAT III program, the U.S. Army is currently pursuing development of the Multi-Purpose Individual Munition (MPIM) program that will share PREDATOR's flight module and launcher assemblies. An existing Memorandum of Agreement outlines the "Joint Effort" parameters concerning the sharing of technology between the Marine Corps PREDATOR and the Army MPIM programs.

DEVELOPER/MANUFACTURER

Loral Aeronutronic

Magnetic Countermine System (MACS)

DESCRIPTION

MACS is designed to neutralize magnetically influenced landmines by causing detonation at a safe stand-off distance from the host vehicle. The system consists of a signal controller and an emitter. MACS is configured to interface with the Main Battle Tank (MBT), Amphibious Assault Vehicle (AAV), and the Light Armored Vehicle (LAV) as a rapidly installed, temporary kit.

A MAGTF conducting combat operations will face a threat ranging from light infantry to heavily armored forces. These forces will use landmines and other obstacles to canalize and disrupt operations. MACS will be used to protect its host vehicle from rapidly emplaced, magnetically influenced, scatterable landmines. Additionally, during an assault breach, MACS will be employed in conjunction with countermine equipment (plows/rollers/explosives) to protect that valuable, low-density asset from magnetically influenced landmines.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------|------|------|
| Quantity: | 0 | 0 |

OPERATIONAL IMPACT

The tactical employment of landmines in the conduct of ground warfare is increasing. Maneuver on future battlefields will become less fluid as a result of rapidly emplaced, magnetically influenced, scatterable landmines. These landmines can be projected across the entire battlefield and even deep within our rear areas. MACS offers a solution against this increasing threat while, at the same time, allowing the host vehicle an unconstrained ability to carry out its primary mission.

PROGRAM STATUS

MACS is a unilateral Marine Corps program scheduled for a Milestone I/II decision in the 3rd Quarter FY96. This program will transition to the Production-Deployment Phase in 1st Quarter FY98. Because there are several manufacturers that produce Magnetic Countermine Systems, both domestic and foreign, an NDI approach will be used. An open competition, based on performance specifications, will be conducted following the Milestone I/II decision. One manufacturer will be selected to conduct vehicle integration and developmental testing with an option for production.

DEVELOPER/MANUFACTURER

TBD

Antipersonnel Obstacle Breaching System (APOBS)

DESCRIPTION

APOBS is a portable, two-man system employed in combat to breach lanes through wire and antipersonnel mines. Weighing 130 pounds, APOBS can be employed in 2 minutes to breach a 1-meter by 45-meter path, while providing a 25-meter safe standoff distance for the breaching team. APOBS will replace the M1A2 Bangalore Torpedo Demolition Kit.

A two-man team encounters a minefield/wire obstacle, places the system in the firing position, and activates the rocket motor. The rocket accelerates rapidly, pulling the fuse and line charge behind it. Normal deployment will place the last grenade of the line charge approximately 25 meters forward of the firing position. The fuse is activated by the force exerted by the rocket motor. A delay detonator inside the fuse allows the line charge to be deployed over the obstacle before detonation.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|-----------------------------|-------------|-------------|
| Quantity: | 0 | 0 |

OPERATIONAL IMPACT

APOBS will significantly improve the standoff breaching capability of infantry and combat engineer elements against antipersonnel mines and wire obstacles. One APOBS creates a breach lane equivalent to three bangalore torpedo demolition kits weighing 594 pounds, taking in excess of one hour to deploy, and requiring four men. APOBS takes two men 2 minutes and provides a 25-meter standoff.

PROGRAM STATUS

APOBS is currently in the EMD phase.

DEVELOPER/MANUFACTURER

Developer - Naval Surface Warfare Center; Coastal Systems Station, Crane Division, Indian Head Division, and White Oak Detachment

Manufacturer -
TBD



81MM Infrared Mortar Cartridge (IMC) (M816)

DESCRIPTION

The 81mm IMC is a technological improvement of the 81mm Illumination Mortar (M853A1). This cartridge is identical to the M853A1 with the exception of the illuminating composition. The illuminating composition in the M853A1 was replaced with an infrared illumination composition. In a side-by-side comparison, the 81mm IMC can be distinguished from the 81mm Illum by a bright orange band around the lower body and by an orange saw-tooth flag attached to the fuze safety pin.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|-----------------------------|-------------|-------------|
| Quantity: | 8,570 | 3,036 |

OPERATIONAL IMPACT

The 81mm IMC will complement night vision equipment and provide an enhanced visual capability for night operations or under conditions of reduced visibility. The purpose of the 81mm IMC is to take advantage of the United States technological edge in night vision equipment while reducing friendly forces exposure to the enemy.

PROGRAM STATUS

The 81mm IMC completed Operational Test & Evaluation (OT&E) at the Marine Corps Air-Ground Combat Center, Twentynine Palms, CA, and is preparing for its Milestone III Production Brief.

DEVELOPER/MANUFACTURER

The Marine Corps Systems Command (AM) is the developer with engineering support provided by Army Research, Development and Engineering Command. The 81mm IMC will be produced at Pine Bluff Arsenal, AR.

Aviation Combat Element Programs

The Aviation Combat Element (ACE) provides the MAGTF commander enormous flexibility, mobility, and firepower. Part of its function is to provide day/night air support to the MAGTF Ground Combat Element (GCE). This is accomplished through responsive offensive air support and assault support. Offensive air support isolates the battlespace and provides timely and accurate close air support to maneuvering forces. Assault support ensures the rapid buildup of combat power ashore, and provides a means to quickly maneuver ground forces on the battlespace. The following aviation systems enhance and complement the Corps' expeditionary nature and execution of **OMFTS**.



ASSAULT SUPPORT

V-22 Osprey

DESCRIPTION

The V-22 Osprey is a tiltrotor, vertical/short takeoff and landing (V/STOL) aircraft designed to replace the CH-46E, CH-53D, and RH-53D aircraft presently operating in support of the Marine Corps. Specific missions include amphibious assault, land assault, raid operations, medium cargo lift, tactical recovery of aircraft and personnel (TRAP), fleet logistics support, and special warfare. The V-22 design incorporates advanced but mature technologies in composite materials, fly-by-wire flight controls, digital cockpits, survivability, airfoil design, and manufacturing to fulfill its multi-service combat and operational requirements. The Osprey is capable of carrying 24 combat-equipped Marines or a 10,000-pound external load, and deploying 2,100 nautical miles with a single aerial refueling. The V-22's 38-foot rotor system and engine/transmission nacelle mounted on each wingtip allow it to operate as a helicopter for takeoff and landing. Once airborne, the nacelles rotate forward 90 degrees, converting the V-22 into a high-speed, high-altitude, fuel-efficient turboprop airplane. The V-22 is a multi-mission aircraft originally designed for use by all Services. Currently, the USMC, Navy, and USAF have committed to fielding this unique aircraft.

| PROCUREMENT PROFILE | FY96 | FY97 |
|----------------------------|-------------|-------------|
| Quantity: (MV-22) | 0 | 4 |

OPERATIONAL IMPACT

The MV-22 will be the cornerstone of the Corps' assault support aircraft possessing the speed, endurance, and survivability needed to fight and win on tomorrow's battlefield. This combat multiplier represents a quantum improvement in strategic mobility and tactical flexibility for amphibious and maritime prepositioning forces. V-22 procurement remains the Marine Corps' number one acquisition priority.

PROGRAM STATUS

The program is currently in the EMD phase. Specific test accomplishments include successful completion of Operational Assessment IIA conducted by COMOPTEVFOR, icing trials behind KC-135 and H-47 HISS aircraft, high/hot hover performance trials, and the accrual of over 1,000 total flight hours on the Full Scale Development (FSD) aircraft. Total programmed buy is 523 aircraft (425 for USMC) for the Marine Corps, Navy, and Air Force.

DEVELOPER/MANUFACTURER

Bell - Helicopter Textron; Fort Worth, TX

Boeing Defense and Space Group, Helicopter Div.; Philadelphia, PA

AH-1W(4BW) and UH-1N (4BN) Upgrade

DESCRIPTION

The AH-1W is a multi-mission, two-place, twin-engine attack helicopter capable of land- or sea-based operations. It provides close air support under day/night and adverse weather conditions. Additionally, it provides anti-armor/anti-helicopter operations, armed escort, armed and visual reconnaissance, and supporting arms coordination. The UH-1N is a two-place, combat utility helicopter which provides airborne command and control as well as supporting arms coordination, medical evacuation, maritime special operations, insertion/extraction, and search and rescue. The 4BN/BW program replaces the current two-bladed rotor systems on the UH-1N and AH-1W aircraft with a new, four-bladed, all-composite rotor system coupled with a sophisticated, fully-integrated cockpit and planned state of the art technical enhancements. In addition to the new rotor system, major modifications include a new performance matched transmission, a new four-bladed tail rotor and drive system, upgraded landing gear, and for the AH-1W, structural modifications to support six weapons stations. The 4BW increases aircraft agility, maximum continuous speed, and payload. The advanced cockpit reduces operator workload, improves situational awareness, and provides growth potential for future weapon use and joint interoperability. It integrates on-board planning, communications, digital fire control, self-contained navigation, night targeting, and weapons systems in mirror-imaged crew stations. The 4BN incorporates the 4BW rotor system and dynamic components, maximizing commonality and supportability between the two aircraft. The 4BN program returns adequate power margin for the aircraft, adequate mission payload, and warfighting capability growth potential.

OPERATIONAL IMPACT

The 4BN/4BW program reduces life-cycle costs, significantly improves operational capabilities, resolves existing safety deficiencies, and extends the service lives of both aircraft. Commonality between aircraft greatly enhances the maintainability and deployability of the systems with both aircraft supported and operated within the same squadron structure.

PROGRAM STATUS

The 4BN/4BW upgrade is in RDT&E stage and should begin remanufacture procurement in 2003.

DEVELOPER/MANUFACTURER

Bell - Helicopter, Textron

OFFENSIVE AIR SUPPORT

AV-8B Harrier Remanufacture (Reman)

DESCRIPTION

The AV-8B is a single-seat, transonic, vectored-thrust, light attack aircraft. The Vertical/Short Takeoff and Landing (V/STOL) design gives it the capability to operate from a variety of land- and sea-based areas. Current radar/night-attack standards incorporate an improved engine, night warfighting capabilities, and the APG-65 multimode radar. The Marine Corps is pursuing a remanufacture program for 70 older "day-attack" aircraft to the current radar/night-attack standard, at approximately 80% of the cost of a new aircraft.

| PROCUREMENT PROFILE | FY96 | FY97 |
|---------------------|------|------|
| Quantity (REMAN): | 8 | 10 |

OPERATIONAL IMPACT

The MAGTF relies heavily on its complementary aviation assets to offset limited organic artillery and tanks and provide required fire support. The V/STOL capability of the AV-8B is well-suited for providing dedicated close air support to Marine ground forces. The AV-8B operates from ships as small as an LPH, from rapidly constructed expeditionary airfields, from forward sites like roads, and from damaged conventional airfields. The addition of night attack and radar capabilities allows the Harrier to be responsive to the needs of the MAGTF for expeditionary night and adverse weather offensive air support.

PROGRAM STATUS

Seventy day-attack aircraft are programmed through FY01.

DEVELOPER/ MANUFACTURER

McDonnell Douglas



F/A-18 Hornet

DESCRIPTION

The F/A-18 Hornet is a twin-engine, supersonic, strike-fighter aircraft. It fulfills both air-to-air and air-to-ground mission requirements and can be operated from conventional airfields and aircraft carriers. The F/A-18Cs delivered since FY90 have increased night and marginal weather capability, including a color moving map display, night vision goggle-compatible lighting and a navigation forward-looking infrared (NAVFLIR) sensor. The two-seat version, F/A-18D, incorporates all warfighting capabilities of the F/A-18C and will include a tactical reconnaissance capability. This aerial reconnaissance capability, the Advanced Tactical Aerial Reconnaissance (ATARS) system, provides near real-time aerial imagery to the MAGTF and will deploy with four systems per VMFA(AW) squadron beginning in FY98.

| PROCUREMENT PROFILE | FY96 | FY97 |
|---------------------|------|------|
| Quantity: | 12 | 0 |

OPERATIONAL IMPACT

The F/A-18C provides modern multi-mission offensive and defensive anti-air capability and offensive air support. The F/A-18D provides the MAGTF a platform capable of tactical air control and reconnaissance, while retaining the capabilities of the F/A-18C. Both aircraft provide the MAGTF commander powerful and flexible air support and suppression of enemy air defenses. The maintainability and multimission capabilities make the F/A-18 particularly well-suited to the needs of the MAGTF in an austere expeditionary environment. Continued procurement enables the Marine Corps to sustain this support with the Hornet into the 2010s.

PROGRAM STATUS

FY96 procurement of F/A-18s will be the final deliveries of new Hornets. Programmed upgrades enhance the present capability of weapons, communications, and reconnaissance systems to ensure that F/A-18 support of Marines continues and keeps them state-of-the-art warfighters well into the 21st Century.

DEVELOPER/MANUFACTURER

McDonnell Douglas
Northrop Grumman
Hughes



Advanced Tactical Airborne Reconnaissance System (ATARS)

DESCRIPTION

ATARS consists of a suite of sensors and a data link pod which will be installed in F/A-18D aircraft to collect, record, and data-link digital electro-optical (EO), infrared (IR) and High Resolution Synthetic Aperture Radar (HSAR) imagery in a near real-time basis. The data-link information will be utilized by JSIPS-N, JSIPS and TEG systems for evaluation, exploitation, and further dissemination. Digitally recorded information will be disseminated through the same channels by ground relay systems. ATARS will support day and night infrared and electro-optic imagery intelligence collection requirements for peace time, contingency-crisis, and wartime operations. Use of the digital data will allow information to flow up and down the chain and provide expeditious information to users at all levels. When fielded, ATARS can be found at the F/A-18 Marine Air Groups (MAGs) within the Marine Air Wings.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|-----------------------------|-------------|-------------|
| Quantity: (Sensor Pod) | 0 | 6 |
| (Data Link Pod) | 0 | 6 |

OPERATIONAL IMPACT

The ATARS equipped F/A-18D will provide the MAGTF commander with timely imagery intelligence information for use in execution of amphibious/expeditionary operations. The imagery collected by ATARS will provide sufficient detail and accuracy to permit delivery of appropriate air and ground weapons, assist with battle damage assessment and provide tactical commanders with information on enemy order of battle.

PROGRAM STATUS

Development and integration of EO, IR, and Radar sensors to Reconnaissance Management System (RMS) and Data-Link will proceed until production decision in FY98. Follow-on development of HSAR capability will continue until FOC of RUG II with F/A-18 OFP 15C.

DEVELOPER/MANUFACTURER

McDonnell Douglas Aerospace; St. Louis, MO

Combat Service Support Element Program

The Combat Service Support Element (CSSE) is task-organized to sustain the GCE and ACE beyond their own organic capabilities. It accomplishes this goal by providing several key functions. These include supply maintenance, transportation, general engineering, health services, and services. The CSSE is fully deployable on amphibious shipping and is an integral component of the expeditionary, sea-basing support concept for executing **OMFTS**.



Medium Tactical Vehicle Remanufacturing (MTVR) Program

DESCRIPTION

The current Marine Corps medium tactical vehicle fleet, which consists of the M939A1 and M809 series trucks, will begin to reach the end of service life in FY02. The poor mobility, limited load carrying capacity, and age of current vehicles make replacement or modernization mandatory. A remanufacturing program was chosen as the most cost-effective method for upgrading the fleet. Mobility and payload capacity will be enhanced by using more powerful engine and powertrain components, and an independent suspension.

PROCUREMENT PROFILE

All Marine Corps medium vehicles will be remanufactured, providing an additional 22-year service life.

OPERATIONAL IMPACT

These modernized vehicles will provide a tremendous improvement over the current vehicles and retain a dual-rating capacity of at least 7 tons off-road and 12 tons on-road. Significant improvements in reliability and maintainability are expected as a result of the reduced shock and vibration benefit of the independent suspension.

PROGRAM STATUS

The Navy Acquisition Executive has approved proceeding to the EMD phase. A joint program with the Army has been established and contractor prototypes will be delivered in early FY97. Production is anticipated to start in FY99 with the first vehicles fielded in early FY01. Requests for Proposal from industry are expected during 3rd Quarter FY96.

DEVELOPER/MANUFACTURER

TBD



Other Support to the MAGTF

Nuclear, Biological, and Chemical (NBC) Defense Program Highlights

DESCRIPTION

The Marine Corps is pursuing a number of enhancements that will increase the effectiveness of personnel and units within an NBC environment. Over the past decade, there has been a proliferation of chemical and biological agents. Marines must be able to defend themselves and continue to operate in an NBC environment. The following efforts are ongoing:

■ ***Light Nuclear, Biological, and Chemical Reconnaissance System (LNBCRS)*** is a joint program with the U.S. Army. The LNBCRS will allow the commander to maneuver his forces around and avoid contaminated areas. The LNBCRS will be used to provide units accurate and rapid NBC combat hazard information. LNBCRS will locate, mark, and verify the existence of radiological, biological, and chemical hazards in support of land operations ashore. This system is anticipated to be used with two host vehicles: Light Armored Vehicle (LAV) to operate with the Marine Division reconnaissance elements, and a HMMWV to be deployed by USMC and U.S. Army forces near airfields, forward arming and refueling points (FARPs), on main supply routes, and in support of displacement of command posts. Each platform is composed of two sub-systems: the Base Vehicle (BV) and the Equipment Suite (ES). FOC is scheduled for FY02.

■ ***Joint Service Lightweight Integrated Suit Technology I (JSLIST)*** Program is a joint service (USMC, USA, USN, and USAF) protective ensemble development and testing program. The JSLIST I acquisition program implements a modified NDI, rapid-prototyping acquisition strategy. The program consolidates Service chemical protective garment development efforts to achieve efficiencies and minimize the number of different garments types that are fielded. Differing Service requirements are accommodated through test and analysis of multiple materials and several configurations. Mission needs will continue to be met, and shortcomings in current technology remedied. The JSLIST Program is looking at chemical/biological protective overgarments, battle dress uniforms, and underwear. Initial fielding is scheduled for FY97.

■ The ***Small Unit Biological Detector (SUBD)*** provides real-time biological agent detection, warning, and identification. This system is self-contained, portable, and requires minimal operations and maintenance support. It has interface capabilities to utilize an alternate power source and

to provide two-way communications through a telemetry link, a secure command and control radio frequency link, or through a two-wire surface link. The SUBD delivers both a visual and aural warning upon detection of possible biological agents. An interim capability is scheduled for FY97, with upgrades expected in FY99 and FY02 that will meet the requirements listed above.

■ ***Nuclear, Biological, and Chemical Hazard Information and***

Warning System (NBC HAZWARN) Program system will initially consist of a computer with application software, which will be used in concert with a local printer. The software will be capable of generating NBC reports as required by the North Atlantic Treaty Organization (NATO) Allied Technical Publication-45 (ATP-45). In addition, the software will be used to generate standard NBC reports and U.S. Navy-developed Vapor Liquid Solids (VLS) track software. This sophisticated program generates, more realistically than previously available programs, agent concentration contour lines reflecting terrain, weather, and effect-specific munitions. The system will process meteorological, Global Positioning System (GPS), and other operator inputs, to automate NBC reports and to forecast downwind spread of NBC hazards. Initial capability is scheduled for FY96. —

■ ***Family of Decontaminates*** will consist of new decontaminates

for use on personnel and equipment. The new family of decontaminates will be employed as replacements for the currently used decontaminates, DS-2 and Super Tropical Bleach.

■ ***Canteen Refilling System (CRS)*** will enable Marines to refill

their canteens from organic five-gallon water containers while in contaminated environments. Initial fielding TBD.

PROCUREMENT PROFILE

To be procured in sufficient quantities to adequately sustain Marine Expeditionary Forces (MEFs) during extended operations in an NBC environment.

OPERATIONAL IMPACT

Equipment being fielded will ensure Marines can fight in all environments. All of the above equipment is easy to maintain and reliable. Marines will have the capability to conduct extended operations in an NBC environment.

DEVELOPER/MANUFACTURER

Principal Design Activity – Chemical Research, Development and Engineering Center (CRDEC), Natick RD&E Center. Engineering, Research, Development Center, Chemical Systems Command, Aberdeen Proving Ground, MD. Marine Corps Systems Command, Quantico, VA. Manufacturers for the above items are unknown at this time.

Individual Combat Clothing and Equipment (ICCE) Program Highlights

DESCRIPTION

The clothing and individual equipment used and carried by Marines in the field have a direct and immediate impact on survivability and mission accomplishment. The Marine Corps is modernizing ICCE by making them more durable, lighter, less bulky, and more comfortable. By maximizing the use of similar items that are commercially available, the time to field new ICCE is greatly reduced. The following items are ongoing:

■ ***The Field Pack, Large, with Internal Frame (FPLIF)*** is an internal frame pack that replaced the large ALICE pack. Having an internal frame, padded hip belt, and chest strap, the FPLIF improves load carriage by reducing fatigue and stress on the body. A combat patrol pack attaches and detaches from the top of the pack for carrying combat essential items when the FPLIF is dropped.

■ ***The Modular Sleeping Bag*** consists of two bags, a lightweight patrol bag and an intermediate cold sleeping bag. The lightweight patrol bag will be utilized in temperate climates, and the intermediate cold bag will be utilized in moderately cold climates. The lightweight patrol bag and the intermediate cold bag can be snapped together to form an extreme cold weather sleeping bag that will have a common zipper for access into and out of the cocoon style sleeping system.

■ ***The Infantry Shelter*** is a two-person, three-season, modified commercial backpacking tent being developed as a replacement for the shelter half. The free-standing, double-walled tent is made of a lightweight breathable nylon ripstop material and has approximately 14 square feet of vestibule space for storing gear under cover of the blackout protected fly without being in the tent itself.

■ ***The Infantry Combat Boot*** is a modified commercial, full-grain leather boot with an improved inner, middle, and outer sole for dissipation of shock and greater durability; a lug design sole for improved traction; and a lined and/or padded interior for improved comfort. It will probably replace the current combat boot.

PROCUREMENT PROFILE

Most ICCE will be fielded to each Marine in the Fleet Marine Force with certain ICCE fielded to special training allowance pools for drawing.

OPERATIONAL IMPACT

ICCE that is more durable, lighter, less bulky, and more comfortable reduces fatigue and enhances survivability and lethality of all Marines in combat.

DEVELOPER/MANUFACTURER

Various commercial outdoor clothing and equipment manufacturers and Government laboratories such as the U.S. Army Natick Research, Development, and Engineering Center.



Training Systems and Devices

DESCRIPTION

Training is the key to combat effectiveness and is our major focus of effort during peacetime. This challenging task is met with standards-based, performance-oriented, and realistic training systems that enhance training and ensure combat readiness. The development of basic individual skills, combined with challenging sustainment training at both the individual and collective level, is essential in preparing the force for combat and receives heavy emphasis. Reduced operating budgets have a significant impact on our ability to preserve combat skills and unit readiness. Simulators, devices, and decision-making models provide an investment not only in preserving these skills and readiness but also in enhancing them. The Marine Corps is continuing to explore and field a number of new training systems and simulators that will contribute significantly to training effectiveness while reducing overall training costs.

The *Indoor Simulated Marksmanship Trainer (ISMT)* is an interactive video marksmanship simulator. It provides enhanced marksmanship skills training for the following weapons: M16A2, M9, M-249, M240G, M-2, MK19, AT4, SMAW, M203, MP5, and shotgun. The ISMT is a classroom simulator that provides four firing positions. The *Infantry Squad Trainer* is an expanded version that provides 12 firing positions. Using computer generated imagery and video disc, the systems provide realistic training scenarios that replicate marksmanship and weapons Individual Training Standards (ITS), collective training, and judgmental shoot/no-shoot situations. Additional capabilities include forward observer (FO) training, night vision devices firing, and a shoot-back mechanism that is MILES compatible. FO training will be enhanced in FY96 with the addition of a closed-loop indirect fire trainer, which will add 60mm and 81mm mortars to the systems.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------|------|------|
| Quantity: ISMT | 185 | 0 |
| IST | 12 | 10 |

DEVELOPER/MANUFACTURER

Firearms Training Systems (FATS)

The *Multiple Integrated Laser Engagement System 2000 (MILES 2000)* is the next generation of MILES equipment which consists of a family of low-power laser devices simulating the direct fire characteristics of all weapons organic to a Battalion Landing Team. MILES 2000 provides the capability to conduct realistic reinforced

battalion-size, force-on-force engagements. MILES 2000 will allow for longer operating time, exercise feedback, more realistic weapons effects, and additional weapons capability beyond earlier MILES device capability. Additionally, MILES 2000 will utilize a MILES Target Interface Device which will make MILES interoperable with RETS and PITS ranges.

This program also includes the **Tank Weapon Gunnery Simulator System (TWGSS)** and **Precision Gunnery System (PGS)** which will be fielded for the M1A1 and LAV-25, respectively, as MILES 2000 compatible, precision gunnery devices. These devices utilize retro reflectors and a scanning laser that together replicate the actual trajectory and ballistics of the round being fired.

All of these devices include an in-depth, after-action review that provides instant feed-back.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|-----------------------------|-------------|-------------|
| Quantity: MILES 2000 | 0 | 0 |
| TWGSS | 0 | 0 |
| PGS | 0 | 0 |

DEVELOPER/MANUFACTURER

MILES 2000 - Cubic Defense Systems
TWGSS/PGS - Saab Training Systems

Marine Air Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS)

Simulation (MTWS) is a computer-assisted warfare gaming system designed to support training of Marine Corps commanders and their staffs. MTWS will primarily be used in Command Post Exercises (CPXs) in which combat forces, supporting arms, and the results of combat are modeled by the system. MTWS will also be used in Field Exercises (FEXs) in which all or part of the combat forces are actual military units. In FEX play, the system is used to record and monitor the actions of live forces rather than simulating those actions as in CPX play. MTWS can be used to plan tactical operations, and to evaluate the plan under alternative enemy or environmental conditions.

MTWS provides a full spectrum of combat models required to support Marine Corps exercises. The major functional areas are Ground Combat, Air Operations, Fire Support, Ship-to-Shore, Combat Service Support, Combat Engineering, and Intelligence. The system provides limited play in Electronic Warfare; Communications; and Nuclear, Biological, and Chemical Warfare. MTWS uses digitized terrain files for trafficability, cover, and elevation data in the area of operations. Weather

conditions can be described with resultant effects on ground and sea movement, air operations, and visibility.

MTWS has been fielded to each MEF to replace the Tactical Warfare Simulation Evaluation and Analysis System (TWSEAS). Out-year procurement is for MARFORRES, MCAGCC, and system upgrades.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|-----------------------------|-------------|-------------|
| Quantity: | 2 | 0 |

DEVELOPER/MANUFACTURER

Hewlett-Packard (Hardware) and Visacom Lab. (Software)

The **Remoted Engagement Target System (RETS)** is an automated system of pop-up stationary and moving targets for infantry, armor, and anti-armor training. The systems offer computer-driven programmed tactical scenarios or can be operated in a manual mode with groups or individual targets raised on command. RETS will significantly enhance the capability to train individual Marines, crew-served weapons teams, small units, and combat vehicle crews in the employment of their weapon system under the most realistic combat shooting conditions possible.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|-----------------------------|-------------|-------------|
| Quantity: | 1 | 3 |

DEVELOPER/MANUFACTURER

Loral

The **Precision Gunnery Training System (PGTS)** provides precision gunnery training via simulation for the TOW and Dragon missile systems. The system is a video disc/computer-based system that provides training scenarios for real-time missile trajectory simulation, visual and aural effects, performance feedback, and evaluation. The PGTS is optical- and thermal-sight capable, provides obscuration and target size adjustments and can save and replay mission profiles.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|-----------------------------|-------------|-------------|
| Quantity: | 48 | 0 |

DEVELOPER/MANUFACTURER

Various

OPERATIONAL IMPACT

Training devices and simulators are a proven and cost-effective augmentation for training Marines for the rigors of combat. They enhance training by increasing skill progression and sustainment. Realism is enhanced by offering a wide variety of tactical scenarios and situations that cannot be safely replicated on live-fire ranges and facilities.

Simulators are particularly beneficial to forward-deployed forces aboard ship, where maintaining perishable skills is difficult. The use of simulators and training devices supports our Total Force training strategy by providing effective training alternatives to Marine Reserve forces that are geographically distant from major bases and range systems.



Asset Tracking Logistics and Supply System (ATLASS)

DESCRIPTION

ATLASS is the number one logistics (supply/maintenance/readiness) modernization priority in the Marine Corps. Lessons learned during Operation **Desert Storm** emphasized the critical need for improved asset visibility to better support the battlefield by eliminating redundant requisitions and reducing delays in shipment of essential supplies. The Marine Corps identified a critical operational requirement for a deployable, integrated supply and maintenance, automated information system capable of supporting rapid deployment and employment of Marines.

OPERATIONAL IMPACT

ATLASS fills a critical operational requirement. It is a visionary effort that seeks to move the Marine Corps logistics community forward on the battlefield. ATLASS will modernize our archaic automated system support, enabling Marines to obtain and manage the information necessary to accurately predict, procure, and provide the right combat service support (CSS), in the right amount, at the right place and time.

PROGRAM STATUS

The Marine Corps is using a phased development and implementation approach to support a smooth transition to ATLASS. Phase I was completed in October 1994. IOC for Phase II is scheduled for June 1997. IOC for Phase III is targeted for October 1999.

PROCUREMENT ISSUES

The architecture associated with the ATLASS project provides the “backbone” of the planned, standard Marine Corps Logistics Architecture. This architecture will support all Service/Joint logistics systems and is compliant with the MAGTF C4I concept. Hardware purchases will include only the Marine Corps Common Hardware Suite (MCHS).

DEVELOPER/ MANUFACTURER

Phase II software development is underway at the Marine Corps Logistics Base, Albany, GA.

LPD 17

DESCRIPTION

The LPD 17 is a new-design amphibious ship providing large lift capacity, for rapid buildup of combat power ashore, and enhancing the operational flexibility of a three ship Amphibious Ready Group (ARG). It will carry 720 Marines and have a cargo capacity of 25,000 cubic feet, a well deck sized for two Landing Craft Air Cushion (LCAC), and a flight deck sized for up to two CH-53 or four CH-46 aircraft. This ship class is optimized for size, flexibility, and economy.

| PROCUREMENT PROFILE: | FY96 | FY97 |
|----------------------|------|------|
| Quantity: | 1 | 0 |

OPERATIONAL IMPACT

Current emphasis on regional contingencies and rapid deployment by Naval Expeditionary Forces increases the importance of amphibious lift assets. To overcome amphibious lift shortfalls caused by the decommissioning of aging LPDs, LSTs, LKAs, and LSDs, the LPD 17 class will augment the versatility of the LHD and LHA helicopter carriers with its well deck and flight operations capability. The LPD 17 program continues the comprehensive effort to provide the lift necessary to meet crisis response and forward presence requirements.

PROGRAM STATUS

The 1990 DON Integrated Amphibious Operations and USMC Air Support Requirements Study reaffirmed the LPD 17 requirement. The LPD 17 Mission Need Statement was validated in September 1990, and the Defense Acquisition Board approved Milestone 0 for LPD 17 in November 1990. Preliminary design work was completed in November 1993 and was followed by commencement of Contract Design. The lead ship contract is planned for FY96. Initial delivery is scheduled for FY02.

DEVELOPER/ MANUFACTURER

TBD



National Foreign Intelligence Program

Marine Corps intelligence is a staff and line function of command employing intelligence planning, operations, and support activities in both the Fleet Marine Forces and the Supporting Establishment. The Service allocates resources and manpower to develop and maintain specific expertise in the areas of human and technical Reconnaissance and Surveillance, general military/naval intelligence duties, Human Intelligence (HUMINT), Counterintelligence, Imagery Intelligence (IMINT), Measurements and Signatures Intelligence (MASINT), and Signals Intelligence (SIGINT).

The Marine Corps participates directly in three component programs of the Director of Central Intelligence-sponsored National Foreign Intelligence Program (NFIP):

■ **Consolidated Cryptologic Program (CCP):** The CCP provides the Marine Corps participation in the United States Cryptologic System. The Marine Support Battalion, working in concert with the National Security Agency and the Naval Security Group, supports the worldwide SIGINT and INFOSEC needs of national decision makers and operational commanders. These Marines also routinely augment MAGTFs, bringing their unique skills to bear in direct support of expeditionary forces.

■ **General Defense Intelligence Program (GDIP):** The GDIP funds Service and Defense Intelligence Agency (DIA) distributed production functions of the Marine Corps Intelligence Activity (MCIA) and provides augmentation pay for Marine Corps Reserve personnel performing intelligence duties at the national and theater level. It also provides for Marine Corps participation in the Defense HUMINT Service (DHS), and CINC Staff and Joint Intelligence/Joint Analysis Center (JIC/JAC) manning.

■ **Foreign Counterintelligence Program (FCIP):** The FCIP provides Marine Corps participation in DON counterintelligence activities through the Naval Criminal Investigative Service.

The NFIP allocates resources to support reimbursable or direct costs and compensation for over 900 Marines and Marine Corps civilian personnel and also funds limited Operations and Maintenance activities. The Marine Corps NFIP program funding averages \$40 million annually throughout the FYDP.

Joint Military Intelligence Program

On 7 April 1995, the Deputy Secretary of Defense created the Joint Military Intelligence Program (JMIP). The JMIP was established to improve the oversight of selected defense-wide intelligence programs and resources. The Deputy Secretary of Defense is the JMIP Program Executive. The JMIP consists of the following four component and five sub-component programs:

- Defense Cryptologic Program (DCP)
- Defense Imagery Program (DIP)
- Defense Mapping, Charting, and Geodesy Program (DMCGP)
- Defense General Intelligence and Applications Program (DGIAP)
 - Defense Airborne Reconnaissance Program (DARP)
 - Defense Intelligence Counterdrug Program (DICP)
 - Defense Intelligence Agency's Tactical Program (DIATP)
 - Defense Space Reconnaissance Program (DSRP)
 - Defense Intelligence Special Technology Program (DISTP)

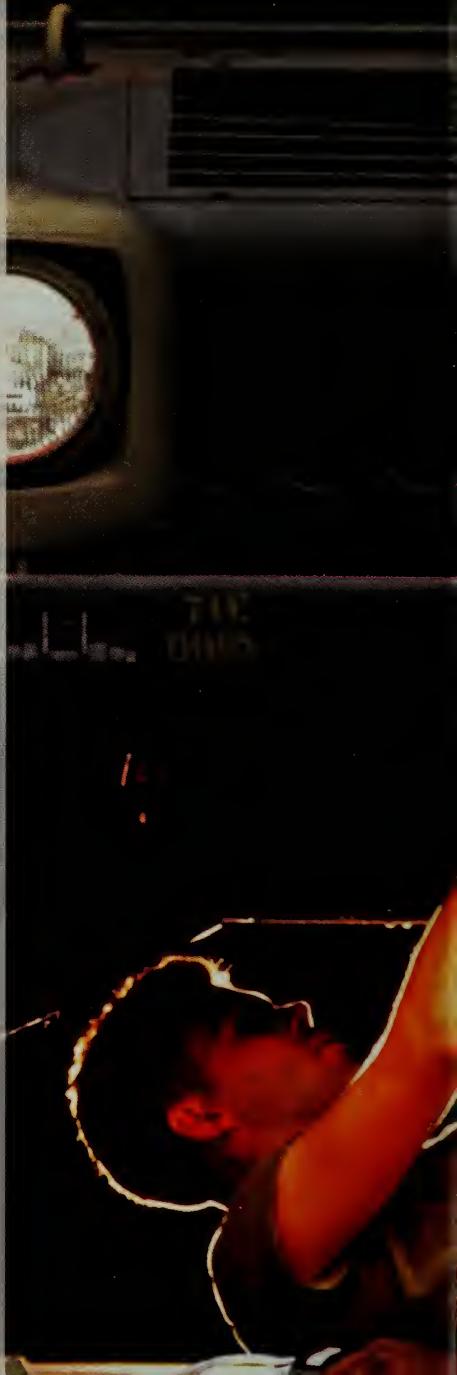
Marine Corps participation in JMIP funds some military pay, the RDT&E, and Procurement associated with the Marine Corps Joint Services Imagery Processing System (JSIPS) National Input Segment (NIS) at Camp Pendleton, CA, and the RDT&E associated with the Common Imagery Ground/Surface System (CIGS) Tactical Exploitation Group (TEG) development in the Defense Airborne Reconnaissance Program (DARP). The DARP also funds all new Unmanned Aerial Vehicles (UAV) system RDT&E and procurement. The DCP provides RDT&E funding to enhance the capabilities of Marine Corps tactical SIGINT forces. DCP projects have led to marked improvements in the SIGINT collection and processing capabilities of the 1st and 2d Radio Battalions. These RDT&E enhancements have been crucial to keeping the Battalions ahead of the fast pace of modern communications technology. Specifically, DCP investment has led to fielding and/or improvements to the Team Portable COMINT System (TPCS), Technical Control and Analysis Center (TCAC), Mobile Electronic Warfare Support System (MEWSS), and to improvements to the Radio Battalions' radio direction-finding capability, special intelligence communications, and signal intercept capability under the Radio Battalion Modifications Program.

Chapter

5

FISCAL RESOURCE OVERVIEW

Maintaining the Marine Corps' ability to immediately respond with ready, capable forces today and in the future involves risks and requires the most judicious application of scarce resources. Today we are meeting all commitments with operationally ready, well-trained and highly motivated forces. The FY 1997 budget fully supports a 216,000 active and reserve end strength and associated training which are essential to meeting operational requirements. Further, we continue to devote additional funding to improve the Quality of Life of our Marines and their families, including improved housing, morale, welfare, and recreation activities, and Marine individual equipment, all of which are important aspects affecting readiness.





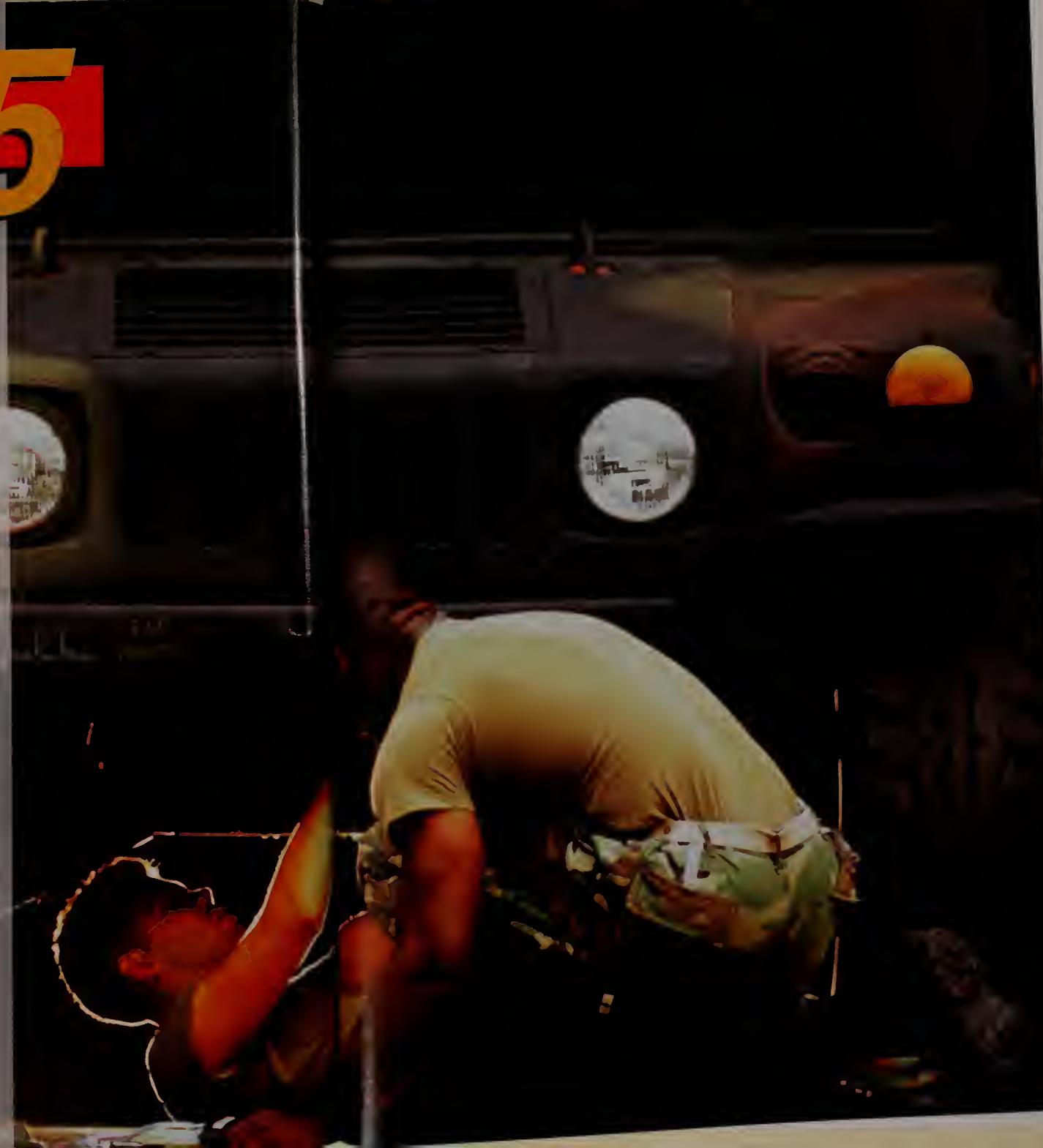
Chapter

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Sustaining today's steadily increasing demands for ready forces with equally steadily decreasing defense resources has forced difficult choices. While we have been able to preserve current capabilities, this has been at the expense of investments needed for the next century. Marine Corps investment funding in modernized equipment for our ground forces is at historic low levels. Investment in property maintenance and military construction at our bases and stations is extremely austere and of serious concern. Lastly, constrained research and development funding has forced selective funding of major projects. In sum, we have fully financed readiness but remain concerned about underfinanced investment. If the Marine Corps is to remain the Nation's expeditionary force-in-readiness in the next century, these resource deficiencies must be adequately addressed.

This Chapter reviews the FY97 DoD Budget resources allocated to the Marine Corps.

Fiscal Resources

Funds to support the new defense strategy are programmed, budgeted, authorized, appropriated, obligated, and finally expended to cover Service investment and operational requirements. Total Obligational Authority (TOA) refers to the total financial resources available. Budget Authority (BA) refers to financial resources appropriated by Congress. The DoD Planning, Programming, and Budgeting System establishes ground rules for the allocation of DoD TOA. Figure 5-1 displays the BA for all of DoD from FY93 through the FY97 Budget request.

FIGURE 5-1:

| BA (FYDP \$B) | FY93 | FY94 | FY95 | FY96 | FY97 |
|------------------|-------|-------|-------|-------|------|
| 267.4 | 249.0 | 255.7 | 253.3 | 242.6 | |

There is a general perception that defense spending has grown over the past few years. As can be seen in Figure 5-2, resources allocated to the Defense Department have been steadily declining. The FY97 Budget requests \$242.6 billion in budget authority for the Department of Defense. This continues the real decline in defense spending begun in 1986. In real terms, the FY97 Budget is 38 percent below that of FY85, the peak year for DoD budget authority since the Korean War.

FIGURE 5-2: DoD BUDGET AUTHORITY TREND (\$B)



Viewed in broader terms, defense spending as a percentage of total Federal spending has also decreased. Defense spending as a share of our total outlay is near its lowest point in 30 years. This trend is depicted in Figure 5-3.

FIGURE 5-3: BUDGET TRENDS

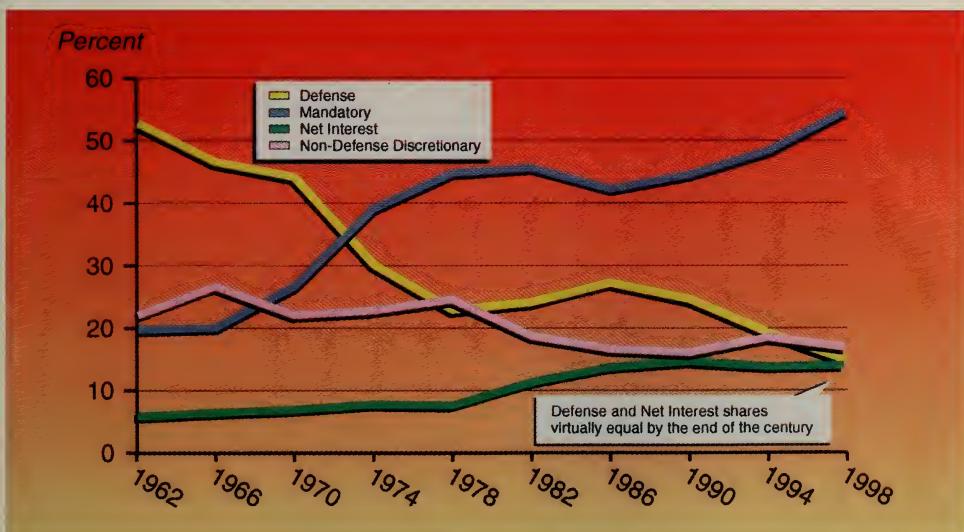


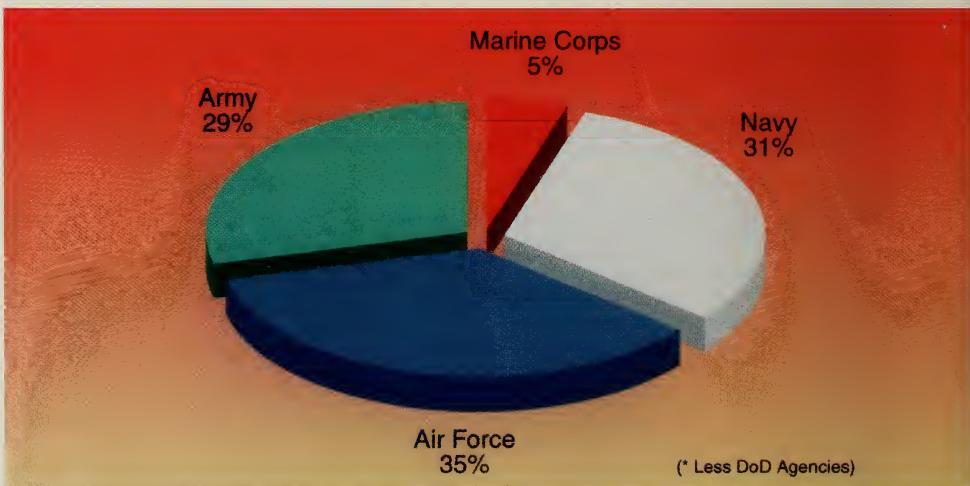
Figure 5-4 is a comparison of the relative amount of resources provided to each Service. Although the Marine Corps' share is comparatively small, it leads DoD in converting each and every dollar into credible combat power.

FIGURE 5-4: SERVICE COMPARISON OF TOA IN THE FY97 DOD BUDGET* (FYDP \$B)



Figure 5-5 depicts the percentage of DoD funds budgeted by each Service. Each Service's TOA is subsequently divided into appropriations. With approximately 5 percent of DoD's budget, specifically in the Marine Corps account, we provide 11.9 percent of the military personnel and 14.7 percent of general purpose forces.

FIGURE 5-5: DOD TOA FY97 BY SERVICE*



Appropriations

An appropriation is the legal apportionment by an act of Congress to incur obligations for specified purposes and to make payments from the Treasury of the United States. Funds may be expended only for the purpose appropriated. The following are Marine Corps appropriation categories, with a brief synopsis of what each provides:

- **Military Personnel, Marine Corps (MPMC)** - Active and retired pay, allowances, individual clothing, interest on deposits, expenses for organization movements, expenses for temporary duty travel between permanent duty stations, and subsistence.
- **Reserve Personnel, Marine Corps (RPMC)** - Pay, allowances, clothing, subsistence, gratuities, travel, and related expenses for personnel of the Marine Corps Reserve.
- **Operation and Maintenance, Marine Corps (O&MMC)** - Expenses for support of the FMF, equipment and facilities maintenance, civilian employee pay, travel and transportation, training, consumable supplies, recruiting and advertising, base operations, and base communications.
- **Operation and Maintenance, Marine Corps Reserve (O&MMCR)** - Expenses for operation and maintenance, including training, organization, and administration; repair of facilities and equipment; hire of passenger motor vehicles; travel and transportation; and communications for the Marine Corps Reserve.
- **Procurement, Marine Corps (PMC)** - Expenses for the purchase and manufacture of ammunition, weapons and tracked combat vehicles, guided missiles and equipment, communications and electronics, support vehicles, engineer and other equipment, spares, and repair parts.

The following Navy appropriations include functional areas for which the Marine Corps programs and budgets. The complete Marine Corps TOA includes both Marine-unique appropriations described above, as well as resources from the following appropriations:

- **Military Construction, Navy (MCON)** - Acquisition, construction, and installation of permanent public works, naval installations, and facilities for the Navy and the Marine Corps.
- **Family Housing, Navy and Marine Corps (FHN&MC)** - Construction, improvements, operation, maintenance, repair, and design of Navy and Marine Corps housing and ancillary facilities required at bases and stations.

- **Military Construction, Navy Reserve (MCNR)** - Construction, acquisition, expansion, rehabilitation, and conversion of facilities for the training and administration of the Reserve components of the Navy and Marine Corps.
- **Research and Development, Ground (R&D, Grnd)** - Research, development, test, and evaluation in the areas of technology development, advanced technology development, ground and tactical programs, intelligence and communication programs, and overhead and support costs of Marine Corps RDT&E effort.

Figure 5-6 displays the TOA allocated to each of these appropriations.

FIGURE 5-6: MARINE CORPS TOA (FYDP \$M)

| | FY95 | FY96 | FY97 |
|--------------|--------------|---------------|--------------|
| MPMC | 5,735 | 5,843 | 6,102 |
| RPMC | 352 | 378 | 381 |
| O&MMC | 2,139 | 2,421 | 2,204 |
| O&MMCR | 85 | 102 | 100 |
| PMC | 539 | 635 | 556 |
| R&D (Grnd) | 183 | 212 | 216 |
| MCON | 84 | 143 | 123 |
| FHMC | 173 | 262 | 220 |
| MCNR | 5 | 4 | 2 |
| TOTAL | 9,295 | 10,000 | 9,904 |

Figure 5-7 depicts budget trends of the past several years in constant dollar terms. This data reveals the total impact of reduced spending over time. The Marine Corps, in relative and cumulative terms, has absorbed a 21 percent reduction in resources since 1989. Further reductions, beyond those already programmed, will severely affect the Fleet Marine Force (FMF) and our ability to maintain ready forces in support of the National Military Strategy.

FIGURE 5-7: TOTAL OBLIGATIONAL AUTHORITY (FY96 CONSTANT DOLLARS)



The allocation of Marine Corps resources to specific appropriations for FY97 is shown in Figure 5-8.

FIGURE 5-8: USMC FY97 TOA BY APPROPRIATION

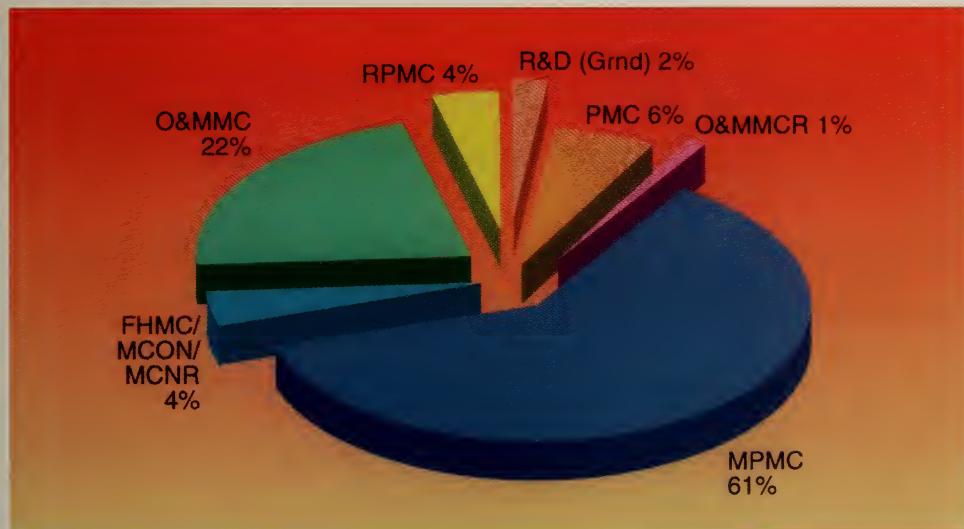


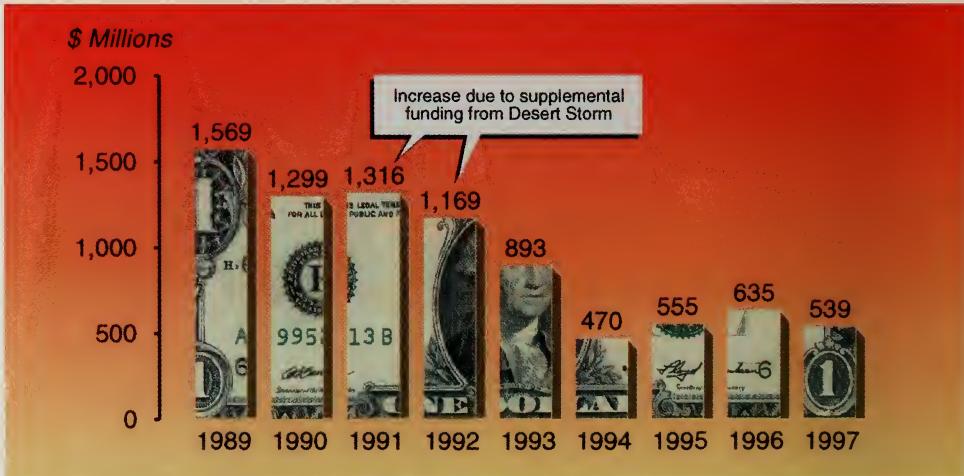
Figure 5-9 depicts how Marine Corps procurement resources (PMC appropriation) are allocated to budget activities in the FY97 Budget.

FIGURE 5-9: MARINE CORPS PROCUREMENT (FY97) BY BUDGET ACTIVITY (FYDP \$M)



Figure 5-10 depicts the PMC appropriation over the past several years.

FIGURE 5-10: PROCUREMENT MARINE CORPS DOLLARS (FY96 CONSTANT DOLLARS)

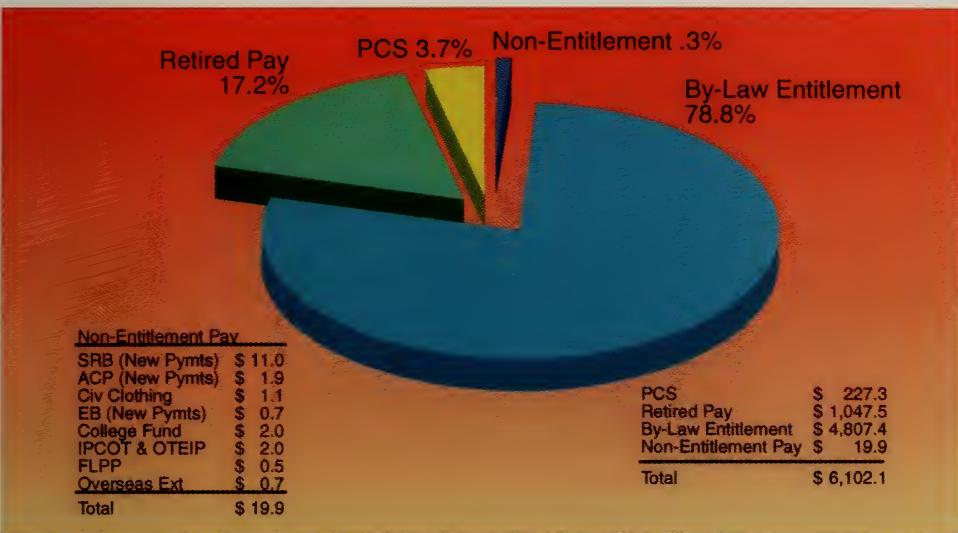


The largest elements within the Marine Corps' current budget request are the Manpower appropriations and the Operation and Maintenance (O&M) accounts. Combined, these appropriations make up 89 percent of the Marine Corps FY97 Budget. They support our military personnel, readiness, and operations programs.

Military Personnel, Marine Corps (MPMC) Budget

As described above, the Marine Corps Manpower budget is by far our largest appropriation. The vast majority of it goes to by-law requirements as shown in Figure 5-11.

FIGURE 5-11: MILITARY PERSONNEL FY97 BUDGET (FYDP \$M)



The nondiscretionary portions of this appropriation represent compensation for our Marines as authorized by Congress. As has been identified by both the Marine Corps and the combatant CINCs, adequate compensation is the most important quality of life issue we have. The small discretionary programs (Selective Reenlistment Bonus, Aviation Continuation Pay, Enlistment Bonus and College Fund) are modest investments with large dividends. They help the Marine Corps shape its force properly through recruiting and retention and, from a training perspective, save the taxpayer money.

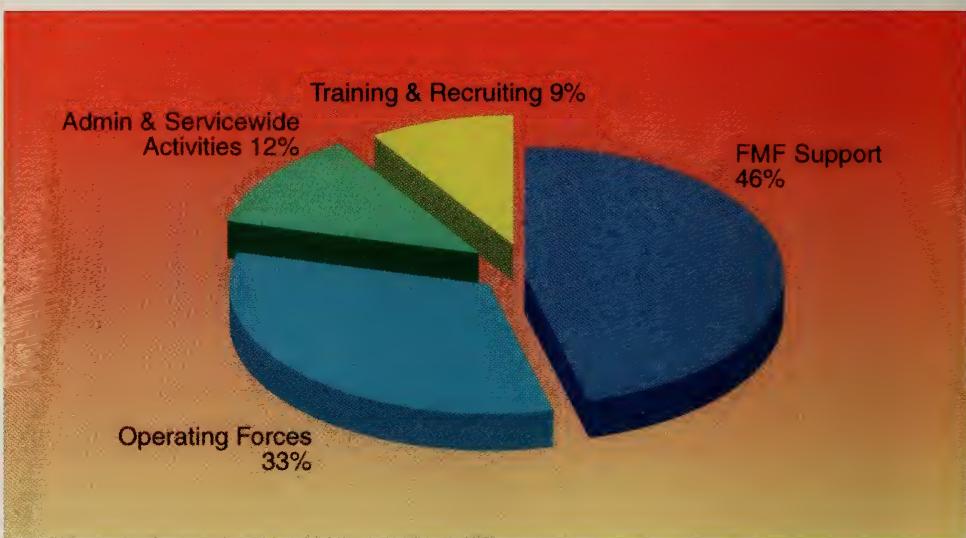
Two other areas, Permanent Change of Station (PCS) and Subsistence in Kind (SIK), provide essential support to our mission. The PCS funding provides for accession, separation, and operational and rotational moves. Funding in this area allows the Marine Corps to

maintain its tour length policies and support the professional development of its Marines. Subsistence provides the basic function of feeding our Marines both in garrison and the field.

Operation and Maintenance, Marine Corps (O&MMC) Budget

The O&MMC budget request of \$ 2.2 billion represents, in real terms, a decline of 11.7 percent over FY96. This reduction, coupled with increased environmental and quality of life requirements, greatly reduces our flexibility in matching ends to means.

FIGURE 5-12: OPERATION AND MAINTENANCE BY MAJOR ACTIVITY



The O&MMC account is a crucial component of our overall readiness (Figure 5-12). The Operating Forces provide the essential logistics functions which allow us to maintain the readiness and sustainability of weapons and equipment used by our forces. Our logistics bases provide support and depot-level maintenance to sustain the daily operations of Fleet Marine Forces, as well as to maintain weapons and equipment for the Maritime and Geographic Prepositioning Programs. Our budget request provides continued support for this vital program through replenishment, modernization, and replacement of equipment during the MPS maintenance cycle. Also funded under this program are the transportation of materiel to and from Marine Corps logistics bases, and subsistence provided to Marines.



The Fleet Marine Force (FMF) support costs are the largest portion of the O&M appropriation. The supporting establishment, which is essential to Fleet Marine Forces, provides the housing, feeding, training ranges/areas, and other essential facilities and services to support operational and training requirements and to provide for the welfare of our Marines and dependents. Maintenance of this infrastructure provides quality of life for our Marines while protecting the investment in these facilities and ensuring an adequate working and training environment.

The O&MMC request also supports training, education, and recruiting activities. The Marine Corps emphasizes education and proficiency in the science and art of warfighting. To accomplish this, our education programs strive to ensure that every Marine can either attend a formal school or participate in a structured self-study program.

Appendix A

How The Marines Are Organized

Marines are organized as a “force-in-readiness” to support national needs. They are divided into three broad categories:

- Operating Forces
- Reserves
- Supporting Establishment

Operating Forces

Operating forces, considered the heart of the Marine Corps, constitute the forward presence, crisis response, and fighting power available to the CINCs. Major elements include the Marine Forces Atlantic and Pacific, Marine Corps Security Forces at naval installations and shipboard detachments, and the Marine Security Guard Battalion with its detachments at embassies and consulates around the globe. About 65 percent of all active duty Marines are assigned to these operating forces.

Consistent with the Goldwater-Nichols Defense Reorganization Act and DoD emphasis on joint operations, each combatant CINC (USCINCA, USCINCEUR, USCINCSOUTH, USCINCPAC, and USCINCCENT) is assigned a Marine Component for planning purposes, and is allocated Marine forces for execution of various operational plans. Marine operating forces are provided by the Commander, Marine Forces, Atlantic (COMMARFORLANT), and the Commander, Marine Forces, Pacific (COMMARFORPAC). COMMARFORLANT also performs Service component functions for USCINCA, USCINCEUR, and USCINCSOUTH. Likewise, COMMARFORPAC performs those functions for USCINCPAC and USCINCCENT.

The major operating force in the eastern United States is II Marine Expeditionary Force (II MEF), located at bases in North and South Carolina. The major operating forces in the west are I MEF, based in California, and III MEF, which is forward-based in Okinawa and mainland Japan. All three MEFs provide Marine Expeditionary Units (MEUs) for service afloat.

Marine Corps Security Forces and Marine Security Guard Battalion personnel operationally report to the Chief of Naval Operations and Department of State.

Marine Air-Ground Task Force (MAGTF)

The primary objective of the Marine Corps, as a Naval expeditionary force, is to provide combatant CINCs with an effective means of dealing with the uncertainties of future threats, providing as it does forward-deployed units that are inherently balanced, sustainable, flexible, responsive, expandable, and credible. MAGTFs (pronounced “mag-taffs”) operate forward from the sea as task organized, combined-arms components of Naval expeditionary forces. MAGTFs are equipped and trained to conduct forward presence and crisis-response missions while operating in the littoral areas of the world.

MAGTF Capabilities

MAGTF capabilities are not built merely to wait for the next amphibious assault or regional war; they are deployed every day. Through experience, realistic procedures, and honed training routines, the Marine Corps stands ready to respond. Our organization has evolved toward the uncertain world situations we currently face, and has repeatedly demonstrated its worth. Embarked aboard amphibious shipping, MAGTFs provide decision makers with the capabilities to:

- Move forces into crisis areas without revealing their exact destinations or intentions;
- Provide continuous presence in international waters;
- Provide immediate national response in support of humanitarian and natural disaster relief operations;
- Provide credible but nonprovocative combat power just over the horizon of a potential adversary, for rapid employment as the initial response to a crisis;
- Support diplomatic processes for peaceful crisis resolution before employing immediately responsive combat forces;
- Project measured degrees of combat power ashore, if required;
- Introduce additional forces sequentially into a theater of operations;
- Operate independent of established airfields, basing agreements, and overflight rights;
- Conduct combat operations ashore using inherent combat service support brought into the area of operations;
- Enable the introduction of follow-on MAGTF or joint and/or combined forces by securing staging areas ashore;
- Operate in rural and urban environments or hostile nuclear, biological, and chemical situations;

- Withdraw rapidly at the conclusion of operations or remain to help restore stability to the affected area;
- Plan and commence execution of a mission within 6 to 48 hours of receiving a warning order (dependent on size).

MAGTF Composition

The Marine Corps task organizes for combat consistent with its statutory tasking to "...provide forces of combined arms, including aviation..." by forming forces into integrated, combined-arms MAGTFs employed to accomplish assigned missions. MAGTFs are specifically tailored for rapid deployment by air and/or sea. All MAGTFs are comprised of four elements:

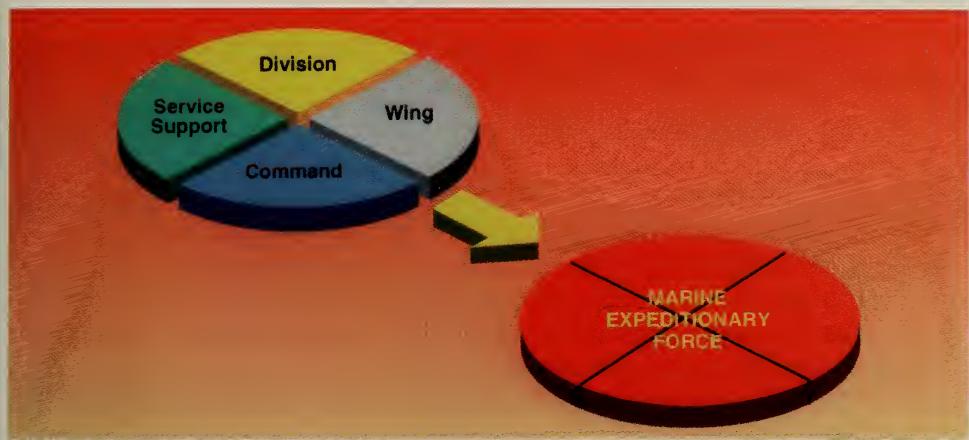
■ ***Command Element (CE)***. The CE is the MAGTF headquarters. It is task organized to provide command and control capabilities (to include intelligence and communications) necessary for effective planning, direction, and execution of all operations.

■ ***Ground Combat Element (GCE)***. The GCE is task organized to conduct ground operations to support the MAGTF mission. It is formed around an infantry organization reinforced with requisite artillery, reconnaissance, armor, and engineer forces and can vary in size and composition from a rifle platoon to one or more Marine divisions.

■ ***Aviation Combat Element (ACE)***. The ACE is task organized to perform those functions of Marine Corps aviation required to support the MAGTF mission. It is formed around an aviation headquarters with appropriate air control agencies, combat, combat support, and combat service support units. The ACE can vary in size and composition from an aviation detachment of specifically required aircraft to one or more Marine aircraft wings.

■ ***Combat Service Support Element (CSSE)***. The CSSE is task organized to provide the full range of combat service support functions and capabilities necessary to support the continued readiness and sustainability of the MAGTF as a whole. It is formed around a combat service support headquarters and may vary in size and composition from a support detachment to one or more force service support groups (FSSGs).

Marine Air-Ground Task Force



Types of MAGTF Organizations

Regardless of size, all MAGTFs are expeditionary. An expeditionary force is a capability vice a structure. Thus, any size MAGTF could be referred to as a Marine expeditionary force. However, to provide a frame of reference for general sizing, MAGTFs are categorized in the following three types:

- Marine Expeditionary Force (MEF)
- Marine Expeditionary Unit (MEU)
- Special Purpose MAGTF (SPMAGTF).

■ ***Marine Expeditionary Force (MEF).*** The MEF is the principal Marine Corps warfighting organization, particularly for a larger crisis or contingency, and is normally commanded by a lieutenant general. A MEF can range in size from less than one, to multiple divisions and aircraft wings, together with one or more force service support groups.

With 60 days of accompanying supplies, MEFs are capable of both amphibious operations and sustained operations ashore in any geographic environment. With appropriate augmentation, the MEF command element is capable of performing the mission of a joint task force headquarters.

MEFs are the primary “standing MAGTFs” (i.e., they exist in peacetime as well as wartime). Currently the Marine Corps is organized with three standing MEFs, each with a division, wing, and FSSG. Marine component headquarters (COMMARFORLANT or COMMARFORPAC) may form smaller MAGTFs from these MEFs. The Marine Corps reservoir

of combat capabilities – the divisions, wings, and force service support groups – are assigned to these standing MEFs.

A MEF will normally deploy in echelon and will designate its lead element as the MEF (Forward).

■ ***Marine Expeditionary Unit (MEU)***. Forward deployed MEU(SOC)s embarked aboard Amphibious Ready Group (ARG) shipping operate continuously in the areas of responsibility of numerous Unified Commanders. These units provide the National Command Authorities and Unified commanders an effective means of dealing with the uncertainties of future threats, by providing forward deployed units which offer unique opportunities for a variety of quick reaction, sea-based, crisis response options in either a conventional amphibious/expeditionary role, or in the execution of maritime special operations. The forward deployed MEU(SOC), forged and tested in real-world contingencies, remains the benchmark, forward operating Marine force. The MEU is commanded by a colonel and deploys with 15 days of accompanying supplies.

Prior to deployment the MEU undergoes an intensive six-month training program focusing on its conventional and selected maritime special operations missions. The training culminates with a thorough evaluation and certification as “special operations capable” {MEU(SOC)}.

■ ***Special Purpose MAGTF (SPMAGTF)***. The SPMAGTF is task organized to accomplish a specific mission, operation, or regionally focused exercise. As such, SPMAGTFs can be organized, trained, and equipped to conduct a wide variety of expeditionary operations in response to a crisis or a peacetime mission. They are designated as SPMAGTF with a location; e.g., SPMAGTF (Somalia). Their duties cover the spectrum from noncombatant evacuation to disaster relief and humanitarian missions.

MAGTF Sustainability

A fundamental characteristic of a MAGTF is its ability to operate for extended periods as an expeditionary force, relying on internal resources for sustainment. All MAGTFs have inherent sustainability to be self-sufficient for preplanned periods. Larger MAGTFs have a deeper, broader, and more capable organic support capability. MAGTFs deploy with a portion of their accompanying supplies sufficient for a specific period of time:

- MEF - 60 days
- MEU - 15 days
- SPMAGTF - As the situation requires.

MAGTFs can augment their organic sustainability by using external support from Navy organizations, wartime host nation support (WHNS) agreements, interservice support agreements (ISSAs), and in-theater cross service support.

Maritime Prepositioning Forces (MPF)

MPFs provide an added dimension in mobility, readiness, and global responsiveness. The MPF program involves 13 ships, organized in three squadrons. These squadrons are strategically positioned in the Mediterranean Sea, the Indian Ocean, and the Pacific Ocean. The MPF program reduces MAGTF response time from weeks to days by prepositioning the bulk of equipment, and 30 days of supplies, for a 17,300-Marine force aboard specially designed ships. Personnel and selected equipment can be airlifted quickly, using roughly 250 airlift sorties, to an objective area to join with required equipment at a secure site. Equipment and supplies can also be selectively offloaded to support smaller MAGTFs.

As graphically demonstrated in Operation **Desert Shield**, MPFs are integral to the rapid deployment of credible combat power. MPF program flexibility has been increased through selective and innovative loading plans and development of enhanced deployment options. We are enlarging the development of specific capability packages tied to supporting unique mission requirements.

Unique Forces and Capabilities Provided to Unified Commanders

A CINC or subordinate commander may also require Marine forces that do not possess all elements of a MAGTF; thus, they are not given a MAGTF designation. Examples are installation security forces, engineer and medical support teams for humanitarian operations, deployments for training, law enforcement operations, and mobile training teams. In these cases, forces will be designated by the name of the senior headquarters having operational control; e.g., 1st Combat Engineer Battalion (Rein), 1st Marine Division.

■ Standing Joint Task Force Headquarters (SJTF HQ).

Recognizing that the key element in joint operations is the Joint Task Force Headquarters, CMC directed COMMARFORLANT/Commanding General II MEF, and Commanding General Marine Corps Combat

Development Command to produce a plan that resulted in the Marine Corps providing a fully capable, expeditionary, JTF HQ organized and equipped to move out on a moment's notice to meet the uncertainties of a chaotic new world. As part of Phase I of the resulting three-phase campaign plan, COMMARFORLANT has established the lead elements of a SJTF HQ at Camp Lejeune, NC. The SJTF HQ is focused on joint issues and serves as the standing core of any JTF HQ that USCINCA, USCINCSOUTH, or USCINCEUR may ask their Marine Components to form.

■ ***Marine Expeditionary Units (Special Operations Capable).***

COMMARFORLANT and COMMARFORPAC maintain forward deployed MEU(SOC)s in the Mediterranean, and Persian Gulf regions, and in Japan. In addition to conventional capabilities, the MEU(SOC) is augmented with selected attachments to provide enhanced capabilities. These special capabilities include:

- Close Quarters Battle.
- Specialized Demolition Operations
- Clandestine Reconnaissance and Surveillance
- Maritime Interdiction Operations
- Direct Action
- Gas and Oil Platform Operations
- Tactical Recovery of Aircraft and/or Personnel
- In-Extremis Hostage Recovery
- Clandestine Recovery Operations.

■ ***Air Contingency Force (ACF).*** Developed by both

COMMARFORLANT and COMMARFORPAC, ACFs provide air deployable forces to the Unified Commanders, with lead elements ready to deploy within 16 hours of notification. They are prepared to assume control of, and deploy on short notice, one or more reinforced battalions in support of current contingency plans or other contingency requirements. The ACFs provide great versatility in that they can be used as part of the fly-in echelon of a maritime prepositioning force, as reinforcement for an amphibious force, or as the lead element of a MEF. The ACF is prepared to perform the following missions:

- Stability operations (presence, humanitarian assistance, security, peacekeeping, counterinsurgency)
- Limited objective operations (non-combatant evacuation, amphibious raid, airfield seizure, counterterrorism)
- Conventional combat operations (amphibious, operations ashore, reinforcement).

The ACF will be task organized to meet the mission, the threat, and airlift availability. The size of the force can range from a reinforced rifle company, plus a battalion headquarters element, to a regimental size force, consisting of a regimental headquarters, two infantry battalions, a two-battery artillery battalion, a two-platoon reconnaissance company, a two-platoon engineer company, and an appropriate combat service support element.

■ **Norway Prepositioning Program.** Similar in concept to the MPF, but land-based, this program currently stores supplies and combat equipment at secure locations in Norway for an airlifted force. Forward positioning of equipment saves both reaction time and tremendous additional airlift assets.

■ **Marine Corps Security Forces (MCSF).** About 4,000 Marines protect key naval installations and facilities worldwide. Although not assigned to combatant commands, they are part of the operating forces of the Marine Corps, and contribute to our global combat power. These security forces include Marine Barracks and Marine Security Force Companies in CONUS and abroad, as well as Marine Detachments afloat.

The MCSF battalion contains a Fleet Antiterrorism Security Team (FAST) company. FAST Marines deploy to reinforce high threat locations, provide security for nuclear fueling operations, and respond to other crises and contingencies as directed. Although not assigned to Unified Commanders, FAST units are available through naval service channels and have provided security worldwide.

■ **Marine Security Guard Battalion.** The Marine Corps also provides forces to the Department of State for embassy security. Organized into the Marine Security Guard Battalion, these Marines are assigned to 127 diplomatic posts in 115 different countries throughout the world.

Reserves

In addition to active forces, force expansion is made possible by the activation of the Marine Corps Reserve, which, like the active forces, consists of a combined arms force with balanced ground, aviation, and combat service support units. Organized under the Commander, Marine Forces Reserve, units of this command are located at 191 training centers in 46 states, Puerto Rico, and the District of Columbia.

Over the past several years, the Marine Corps Reserve has been closely integrated with the active component in our Total Force concept. The Reserves provide individuals and specific units to augment and reinforce active capabilities.

Supporting Establishment

The Supporting Establishment – 30,000 Marines – staff our 16 major bases, training activities, formal schools, the Marine Corps Recruiting Command, the Marine Corps Combat Development Command, the Marine Corps Systems Command, and Headquarters, Marine Corps. The Supporting Establishment's contributions are vital to the overall combat readiness of the Marine Corps.

Marine Corps Total Force

Figure A-1 depicts the Marine Corps Total Force. There is a direct relationship between the size of the Marine Corps and the contribution made to our national defense. Large scale deployments, operations, and training exercises with allies are part of our training and presence requirements in peacetime. About 23 percent of our operating forces are forward-deployed during peacetime, which predicates a high deployment tempo and a corresponding CONUS rotation base. As the U.S. retains a desire to maintain stability in areas where we have significant interests, the requirement for forward-deployed forces will continue.

**FIGURE A-1: MARINE CORPS TOTAL FORCE
(FY96 Authorizations)**



APPENDIX B

ABBREVIATIONS AND ACRONYMS

This appendix provides a list of abbreviations and acronyms which are commonly used in Marine Corps correspondence, publications, and daily dialog. This Appendix is provided for reference purposes. Not all listed acronyms are included in this publication.

| | |
|----------------|--|
| AAAV | Advanced Amphibious Assault Vehicle |
| AAV | Assault Amphibious Vehicle |
| AAWS-M | Advanced Antitank Weapon System-Medium |
| ACE | Aviation Combat Element |
| ACF | Air Contingency Force |
| ACS | Advance Countermine System |
| ADCP | Air Defense Communications Platform |
| ADS | Advanced Distributed Simulation |
| AE | Assault Echelon |
| AFATDS | Advanced Field Artillery Tactical Data System |
| AFOE | Assault Follow-On Echelon |
| AMC | Air Mobility Command |
| ANGLICO | Air Naval Gunfire Liaison Company |
| AOA | Amphibious Objective Area |
| AOR | Area of Responsibility |
| APC | Armored Personnel Carrier |
| APN | Aircraft Procurement, Navy |
| APOBS | Antipersonnel Obstacle Breaching System |
| ARBS | Angle Rate Bombing System |
| ARDEC | Army Research, Development, and Engineering Center |
| ARG | Amphibious Ready Group |
| ARPA | Advanced Research Projects Agency |
| ASP | Ammunition Supply Point |
| ATACC | Advanced Tactical Air Command Central |
| ATARS | Advanced Tactical Aerial Reconnaissance System |
| ATF | Amphibious Task Force |
| ATLASS | Asset Tracking Logistics and Supply System |
| ATO | Air Tasking Order |
| BA | Budget Activity/Authority |
| BRAC | Base Realignment and Closure |
| BUR | Bottom-Up Review |

| | |
|----------------|--|
| C/BIRF | Chemical/Biological Incident Response Force |
| C4I | Command, Control, Communications, Computers, and Intelligence |
| CAM | Chemical Agent Monitor |
| CATF | Commander Amphibious Task Force |
| CAX | Combined Arms Exercise |
| CBRS | Concept Based Requirements System |
| CBV | Combat Breacher Vehicle |
| CDP | Combat Development Process |
| CE | Command Element |
| CECM | Communication Electronic Countermeasures |
| CENTCOM | Central Command |
| CG | Commanding General |
| CI | Counterintelligence |
| CIL | Critical Items List |
| CINC | Commander-in-Chief |
| CJTF | Commander Joint Task Force |
| CMC | Commandant of the Marine Corps |
| CMV | Combat Mobility Vehicle |
| CNA | Center for Naval Analyses |
| COE | Common Operating Environment |
| COE | Concept of Employment |
| COEA | Cost and Operational Effectiveness Analysis |
| COMINT | Communications Intelligence |
| COMSEC | Communications Security |
| CONUS | Continental United States |
| CORM | Commission on Roles and Missions of the Armed Forces |
| COTS | Commercial-off-the-Shelf |
| CP | Command Post |
| CRDEC | Chemical Research, Development & Engineering Center |
| CRS | Canteen Refilling System |
| CSAR | Combat Search and Rescue |
| CSS | Combat Service Support |
| CSSE | Combat Service Support Element |
| CTAPS | Contingency Theater Automated Planning System |
| CTT | Commanders Tactical Terminal |
| CV | Aircraft Carrier |
| CVAT | Combat Vehicle Appended Trainer |
| CVBG | Carrier Battle Group |
| CWL | Commandant's Warfighting Laboratory |

| | |
|-----------------|---|
| DAB | Defense Acquisition Board |
| DACT | Data Automated Communications Terminal |
| DAMA | Demand Assigned Multiple Access |
| DASC | Direct Air Support Central |
| DBOF | Defense Business Operations Fund |
| DEPTEMPO | Deployment Tempo |
| DF | Direction Finding |
| DFT | Deployments for Training |
| DIA | Defense Intelligence Agency |
| DIS | Distributed Interactive Simulation |
| DISA | Defense Information Systems Agency |
| DMA | Defense Mapping Agency |
| DMRD | Defense Management Review Decision |
| DMSO | Defense Modeling and Simulation Office |
| DNCPPG | Department of the Navy Consolidated Planning and Programming Guidance |
| DOA | Days of Ammunition |
| DoD | Department of Defense |
| DON | Department of the Navy |
| DOS | Days of Supply |
| DPG | Defense Planning Guidance |
| DPRB | Defense Planning and Resources Board |
| DSN | Defense Switched Network |
| DT | Developmental Test |
| DTC | Digital Technical Control |
| EAF | Expeditionary Airfield |
| ECCM | Electronic Counter-Countermeasures |
| ECM | Electronic Countermeasures |
| EDM | Engineering Development Model |
| ELINT | Electronics Intelligence |
| EMD | Engineering and Manufacturing Development |
| E-MAIL | Electronic Mail |
| EOB | Electronic Order of Battle |
| ESP | Extended Service Program |
| ESS | Electronics Intelligence (ELINT) Support System |
| ETSS | Extended Training Service Specialist |
| EW | Electronic Warfare |
| FAC | Forward Air Controller |
| FARP | Forward Arming and Refueling Point |
| FAST | Fleet Antiterrorism Security Team |
| FCIP | Foreign Counterintelligence Program |
| FDC | Fire Direction Center |

| | |
|-------------------|---|
| FDS | Field Development System |
| FH | Frequency Hopping |
| FHN&MC | Family Housing, Navy and Marine Corps |
| FIE | Fly-in Echelon |
| FLIR | Forward Looking Infrared |
| FMF | Fleet Marine Force |
| FOC | Full Operational Capability |
| FPLIF | Field Pack Large with Internal Frame |
| FSCC | Fire Support Coordination Center |
| FSC2S | Fire Support Command and Control System |
| FSED | Full Scale Engineering Development |
| FSSG | Force Service Support Group |
| FTE | Full-Time Equivalent |
| FTS | Full-Time Support |
| FY | Fiscal Year |
| GCE | Ground Combat Element |
| GCCS | Global Command and Control System |
| GDIP | General Defense Intelligence Program |
| GMF | Ground Mobile Forces |
| GOTS | Government-off-the-Shelf |
| GPS | Global Positioning System |
| HARM | High Speed Antiradiation Missile |
| HAW | Heavy Antiarmor Weapon |
| HEAA | High Explosive Antiarmor |
| HEAT | High Explosive Antitank |
| HISS | Helicopter Icing Spray System |
| HMD | High Mobility Downsize |
| HMMWV | High Mobility, Multipurpose Wheeled Vehicle |
| HQMC | Headquarters, U.S. Marine Corps |
| HUMINT | Human Intelligence |
| IAC | Intelligence Analysis Center |
| IAS | Intelligence Analysis System |
| ICAD | Individual Chemical Agent Detector |
| ICCE | Individual Combat Clothing and Equipment |
| IDA | Institute for Defense Analysis |
| IDASC | Improved Direct Air Support Central |
| IDB | Integrated Data Base |
| IFF | Identification Friend or Foe |
| IMC | Infrared Mortar Cartridge |
| IMINT | Imagery Intelligence |
| IMST | Indoor Simulated Marksmanship Trainer |
| INTEL | Intelligence |

| | |
|---------------|--|
| IOC | Initial Operational Capability |
| IR | Infrared |
| IRR | Individual Ready Reserve |
| IR3B | Integrated Resources and Requirements Review Board |
| ISMT | Indoor Simulated Marksmanship Trainer |
| ISSA | Interservice Support Agreement |
| | Infantry Squad Trainer |
| JCS | Joint Chiefs of Staff |
| JFACC | Joint Force Air Component Commander |
| JIC | Joint Intelligence Center |
| JM | JTIDS Module |
| JMA/SA | Joint Mission Area/Support Area |
| JMASS | Joint Modeling and Simulation System |
| JMCIS | Joint Maritime Command Information System |
| JOPES | Joint Operation Planning and Execution System |
| JOTS | Joint Operational Tactical System |
| JROC | Joint Requirements Oversight Council |
| JSCP | Joint Strategic Capabilities Plan |
| JSIMS | Joint Simulation System |
| JSIPS | Joint Service Imagery Processing System |
| JSTARS | Joint Surveillance Target Attack Radar System |
| JTF | Joint Task Force |
| JTF HQ | Joint Task Force Headquarters |
| JTIDS | Joint Tactical Information Distribution System |
| JWARS | Joint Warfare System |
| JWCA | Joint Warfighting Capability Assessment |
| JWID | Joint Warrior Interoperability Demonstrations |
| LAAD | Low Altitude Air Defense |
| LAAM | Light Antiaircraft Missile |
| LAI | Light Armored Infantry |
| LAN | Local Area Network |
| LAW | Lightweight Antiarmor Weapon |
| LAV | Light Armored Vehicle |
| LAV-AD | Light Armored Vehicle-Air Defense |
| LCAC | Landing Craft Air Cushion |
| LDS | Lightweight Decontamination System |
| LEWDD | Lightweight Early Warning Detection Device |
| LHA | Amphibious Assault Ship - General Purpose |
| LHD | Amphibious Assault Ship - Multipurpose |
| LIC | Low Intensity Conflict |
| LLDR | Lightweight Laser Designator Rangefinder |
| LLI | Long Lead Item |

| | |
|---------------------|---|
| LMCC | Logistics Movement Control Center |
| LMS | Lightweight Multipurpose Shelter |
| LNBCRS | Light Nuclear, Biological, and Chemical Reconnaissance System |
| LOGMARS | Logistics Applications of Automated Marking and Reading Symbols |
| LPH | Amphibious Assault Ship - Helicopter |
| LP/OP | Listening Post/Observation Post |
| LRC | Lesser Regional Contingency |
| LRIP | Low Rate Initial Production |
| LUT | Limited User Test |
| LVS | Logistics Vehicle System |
| LW155 | Lightweight 155mm Howitzer |
| LWTC | Littoral Warfare Training Center |
| M&S | Modeling and Simulation |
| MAA | Mission Area Analysis |
| MACCS | Marine Air Command and Control System |
| MACS | Magnetic Countermeine System |
| MAFATDS | Multiservice Advanced Field Artillery Tactical Data System |
| MAG | Marine Aircraft Group |
| MAGIS | Marine Air-Ground Intelligence System |
| MAGTF | Marine Air-Ground Task Force |
| MARCENT | Marine Forces Central Command |
| MARCORSYSCOM | Marine Corps Systems Command |
| MARDIV | Marine Division |
| MARFORLANT | Marine Forces Atlantic |
| MARFORPAC | Marine Forces Pacific |
| MARFORRES | Marine Forces Reserve |
| MASINT | Measurements and Signatures Intelligence |
| MAW | Marine Aircraft Wing |
| MAW | Medium Antiarmor Weapon |
| MAWTS-1 | Marine Aviation Weapons and Tactics Squadron-One |
| MBST | Marine Battle Skills Training |
| MBT | Main Battle Tank |
| MCAGCC | Marine Corps Air-Ground Combat Center |
| MCARDS | Marine Corps Ammunition Requirements Management System |
| MCASS | Marine Common Application Support Software |
| MCAS | Marine Corps Air Station |
| MCB | Marine Corps Base |
| MCCDC | Marine Corps Combat Development Command |
| MCDN | Marine Corps Data Network |

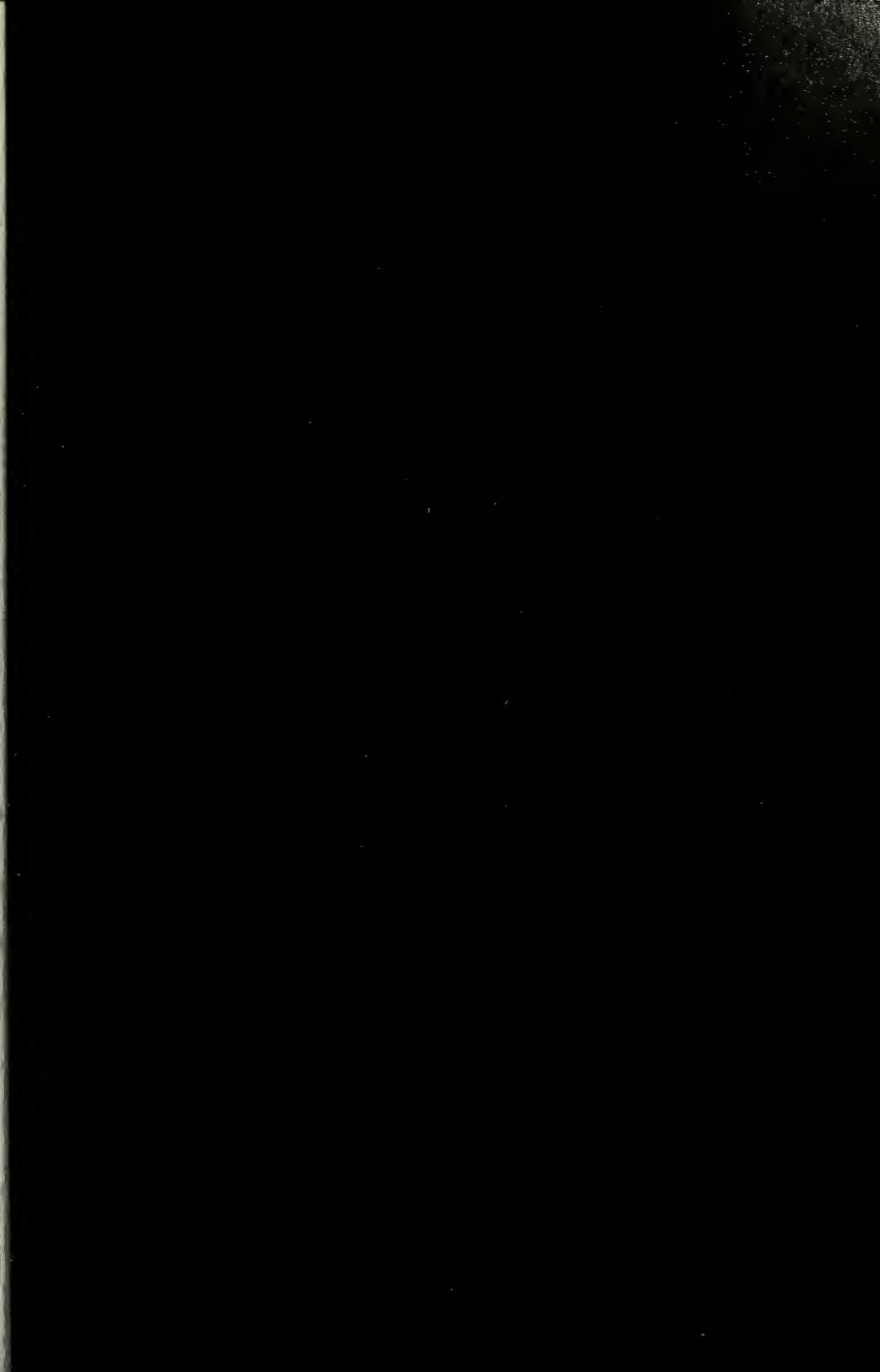
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| MCFSS | Marine Corps Fire Support System |
| MCHS | Marine Corps Common Hardware Suite |
| MCM | Mine Countermeasures |
| MCMP | Marine Corps Master Plan |
| MCMSO | Marine Corps Modeling and Simulation Management Office |
| MCMWTC | Marine Corps Mountain Warfare Training Center |
| MCNR | Military Construction, Navy Reserve |
| MCON | Military Construction, Navy |
| MCRC | Marine Corps Recruiting Command |
| MCSF | Marine Corps Security Forces |
| MCSSC2 | Marine Combat Service Support Command and Control |
| MCTEEP | Marine Corps Training, Exercise Employment Plan |
| MCTSSA | Marine Corps Tactical System Support Activity |
| MEB | Marine Expeditionary Brigade |
| MEF | Marine Expeditionary Force |
| MEP | Marine Enhancement Program |
| MEU | Marine Expeditionary Unit |
| MEU(SOC) | Marine Expeditionary Unit (Special Operations Capable) |
| MEWSS | Mobile Electronic Warfare Support System |
| MHE | Material Handling Equipment |
| MIIDS | Military Integrated Intelligence Data System |
| MILES | Multiple Integrated Laser Engagement System |
| MILSTAR | Military Strategic and Tactical Relay |
| MLA | Medium Lift Alternative |
| MLRS | Multiple Launch Rocket System |
| MNS | Mission Need Statement |
| MOA | Memorandum of Agreement |
| MOB | Mobile Operating Base |
| MOOTW | Military Operations Other than War |
| MOS | Military Occupational Specialty |
| MOUT | Military Operations on Urbanized Terrain |
| MPF | Maritime Prepositioning Force |
| MPMC | Military Personnel, Marine Corps |
| MPS | Maritime Prepositioning Ship |
| MPSRON | Maritime Prepositioning Ship Squadron |
| MRAS | Manpower Requirements Assessment Survey |
| MRC | Major Regional Contingency |
| MRS | Mobility Requirements Study |
| MSC | Major Subordinate Command |
| MSC | Military Sealift Command |

| | |
|-------------------|---|
| MTACCS | Marine Tactical Command and Control System |
| MTT | Mobile Training Team |
| MTVR | Medium Tactical Vehicle Remanufacturing |
| MTWS | MAGTF Tactical Warfare Simulation |
| NALMEB | Norway Air-Landed MEB |
| NATO | North Atlantic Treaty Organization |
| NBC | Nuclear, Biological, and Chemical |
| NCA | National Command Authorities |
| NCO | Noncommissioned Officer |
| NEF | Naval Expeditionary Force |
| NEO | Noncombatant Evacuation Operations |
| NESEA | Naval Electronics System Engineering Activity |
| NDI | Non-Developmental Item |
| NIPRNET | Nonsecure Internet Protocol Router Network |
| NIPS | Naval Intelligence Processing System |
| NITF | National Imagery Transmission Format |
| NMCB | Navy Mobile Construction Battalion |
| NMS | National Military Strategy |
| NNOR | Non-Nuclear Ordnance Requirement |
| NSE | Naval Support Equipment |
| NSF | Navy Stock Fund |
| NSFS | Naval Surface Fire Support |
| NTCS-A | Naval Tactical Command System Afloat |
| NTS | Naval Telecommunications System |
| NVG | Night Vision Goggles |
| O&MMC | Operation and Maintenance, Marine Corps |
| O&MMCR | Operation and Maintenance, Marine Corps Reserve |
| OMFTS | Operational Maneuver from the Sea |
| OOTW | Operations Other than War |
| OPEVAL | Operational Evaluation |
| OPP | Offload Preparation Party |
| OPTEMPO | Operational Tempo |
| ORD | Operational Requirements Document |
| OT&E | Operational Test and Evaluation |
| OTH | Over the Horizon |
| PAA | Primary Aircraft Authorization |
| PALCON | Palletized Containers |
| PCS | Permanent Change of Station |
| PERSTEMPO | Personnel Tempo |
| PGTS | Precision Gunnery Training System |
| PIP | Product Improvement Program |

| | |
|-------------------|---|
| PLRS | Position Location Reporting System |
| PMC | Procurement, Marine Corps |
| PME | Professional Military Education |
| POM | Program Objective Memorandum |
| PPBS | Planning, Programming and Budgeting System |
| PRG | Program Review Group |
| PSD | Propulsion System Demonstrator |
| PWRMS | Prepositioned War Reserve Material Stocks |
| QOL | Quality of Life |
| RAC | Riverine Assault Craft |
| RBE | Remain Behind Equipment |
| R&D | Research and Development |
| RDT&EN | Research, Development, Test, and Evaluation, Navy |
| RETS | Remote Engagement Target System |
| ROC | Required Operational Capability |
| RO/RO | Roll-On/Roll-Off |
| ROWPU | Reverse Osmosis Water Purification Unit |
| RPMC | Reserve Personnel, Marine Corps |
| R3B | Resources and Requirements Review Board |
| SAAWF | Sector Anti-Air Warfare Coordination Facility |
| SACC | Supporting Arms Coordination Center |
| SANG | Saudi Arabia National Guard |
| SAR | Search and Rescue |
| SATCOM | Satellite Communications |
| SCN | Shipbuilding and Conversion, Navy |
| SCR | Single Channel Radio |
| SCRE | Stratified Charge Rotary Engine |
| SEAD | Suppression of Enemy Air Defense |
| SEMP | Supporting Establishment Master Plan |
| SECDEF | Secretary of Defense |
| SECNAV | Secretary of the Navy |
| SHF | Super High Frequency |
| SIE | Systems Integration Environment |
| SIDS | Secondary Imagery Dissemination System |
| SIGINT | Signals Intelligence |
| SINCGARS | Single Channel Ground and Airborne Radio System |
| SIPRNET | Secret Internet Protocol Router Network |
| SIXCONS | Fuel/Water Storage and Pump Modules |
| SLOC | Sea Lines of Communication |
| SMAW | Shoulder-Launched Multipurpose Assault Weapon |

| | |
|-------------------|---|
| SMCR | Selected Marine Corps Reserve |
| SNCO | Staff Noncommissioned Officer |
| SOC | Special Operations Capable |
| SOI | School of Infantry |
| SPMAGTF | Special Purpose Marine Air-Ground Task Force |
| SPMAGTF(X) | Special Purpose MAGTF (Experimental) |
| SRAW | Short Range Assault Weapon |
| SRI | Surveillance, Reconnaissance, and Intelligence |
| SRIG | SRI Group |
| STOVL | Short Take-Off Vertical Landing |
| SUBD | Small Unit Biological Detector |
| SWA | Southwest Asia |
| SWMCM | Shallow Water Mine Countermeasures |
| TACAIR | Tactical Air |
| TACC | Tactical Air Command Center |
| TACO | Tactical Communications |
| TAOC | Tactical Air Operations Center |
| TAOM | Tactical Air Operations Module |
| TAH | Hospital Ship |
| TAVB | Aviation Logistics Support Ship |
| TBD | To Be Determined |
| TCAC | Technical Control and Analysis Center |
| TCC | Tactical Communications Center |
| TCIM | Tactical Communications Interface Module |
| TCO | Tactical Combat Operations |
| TDN | Tactical Data Network |
| TEMP | Test and Evaluation Master Plan |
| TERPES | Tactical Electronic Reconnaissance Processing and Evaluation System |
| TFDSS | Total Force Decision Support System |
| TLAM | Tomahawk Land Attack Missile |
| T/M/S | Type/Model/Series |
| TOA | Total Obligational Authority |
| TOW | Tube-Launched, Optically-Tracked, Wire-Guided Missile |
| TPCS | Team Portable Communications Intelligence System |
| TQL | Total Quality Leadership |
| TRAP | Tactical Recovery of Aircraft and Personnel |
| TRE | Tactical Receive Equipment |
| TRHS | Tray Ration Heating System |
| TRSS | Tactical Remote Sensor System |

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|-----------------|--|
| TWSEAS | Tactical Warfare Simulation, Evaluation, & Analysis System |
| TWGSS | Tank Weapon Gunnery Simulator System |
| UAV | Unmanned Aerial Vehicle |
| UHF | Ultra High Frequency |
| ULCS | Unit Level Circuit Switch |
| UNITAF | United Task Force |
| UNMIH | United Nations Mission in Haiti |
| UNOSOM | United Nations Operations Somalia |
| UNPROFOR | United Nations Protection Force |
| UTM | Unit Training Management |
| VCA | Voice Communications Adapter |
| VHF | Very High Frequency |
| V/Stol | Vertical/Short Take-Off and Landing |
| WAN | Wide Area Network |
| WHNS | Wartime Host Nation Support |
| WPN | Weapons Procurement, Navy |
| WRMR | War Reserve Material Requirement |
| WWMCCS | World-Wide Military Command and Control System. |





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